

ARCHITECTURE

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The Office-Building Lobby

A PAINTER'S POINT OF VIEW

By Arthur S. Covey

ANY consideration of a lobby for a large commercial building can scarcely proceed unless we first pause in front of the building to take a brief view of the entrance itself. Architecture in its beginning no doubt had some scale relation to the figure of a man. Down to the time of the Gothic cathedrals this relation seems to have been maintained. When these Gothic structures began to soar into higher levels than ever before, their designers had the good sense to remember that they were for the use of men—ordinary six-foot men—and so they created the great portals and the transept porches, wherein man might enter. Within these spaces, in carved stone, were found multitudinous stories and legends, bearing on the religious function of the building, human to a high degree, amusing in detail, but withal possessed of a decorative intention that was never lacking.

Thus, on entering, an intimate, earthy contact was established between the man and his church. Once inside, this contact might be lost in the greater grandeur of the interior, but the first impression would be lasting. The church had reached down and taken him by the hand.

The modern office building was first built and still is built as a beacon-light of publicity, and like most lighthouses its radiant gleams carry only to great distances, growing dimmer and dimmer as one approaches. As these towers multiply it becomes obvious that we cannot any longer view them in their entirety from any point of vantage in the street. Until Einstein or some other scientist brings to our consciousness the knowledge that we really do possess new horizons (millions of them), we shall have to amble along with our old one, the only one we know. The complicated view we get from any close-up is clearly shown in the average Sunday rotogravure supplement photograph,

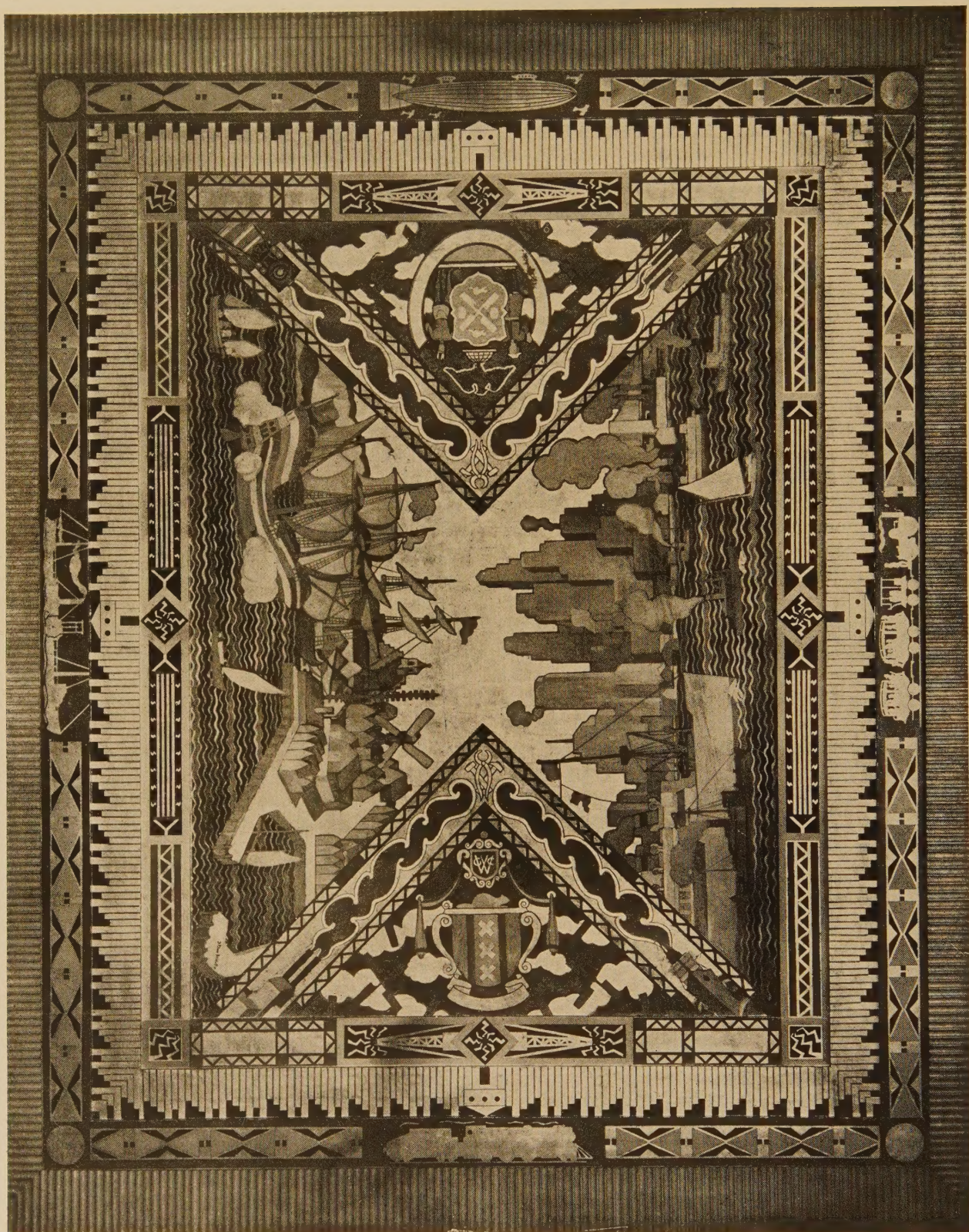
where the photographer, by pointing his camera upwards or downwards or at an angle, with no regard for any horizon, has given us an effect not unlike "The Nude Descending the Staircase"!

Coming to the matter of the doorway, obviously in the very high building it cannot be scaled to the building, so for the greater number of these structures it is merely scaled to the six-foot man, and as such the doorway is so reduced in size and so lacking in style-relation as to render it difficult to be found, when one wishes to enter a particular building. There have been built recently some notable exceptions, and I hope that some one with a sense of architectural harmony keener than that of the writer of this paper, will publish an article on "The Office-Building Doorway," and illustrate it with some of these very outstanding examples.

Inside the lobby, which should be the Great Hall of the building, what do we find? None of the new beauty and severe simplicity which we associate with America's new architecture is to be found here. The whole great mass of bricks and steel comes down on our heads with a thud! Indeed it would almost seem that some rule of inverse proportion had been accepted whereby the loftier the building, the more cramped and undignified becomes the entrance feature. I entered a thirty-five-story building recently and could almost brush with my hand the outer lobby ceiling.

Jealousy as to rental value of cubic footage is no doubt the underlying cause, a shortsighted policy, it would seem, since the investment in beauty in the exterior has definitely proven to be a sound one.

The architect has suffered the heavy sledge of economics to come down on his entrance feature. His cathedral has no interior, no more



*Ceiling of 120 Wall Street, New York City
The Firm of Ely Jacques Kahn, architects
D. Putnam Brinley, painter*



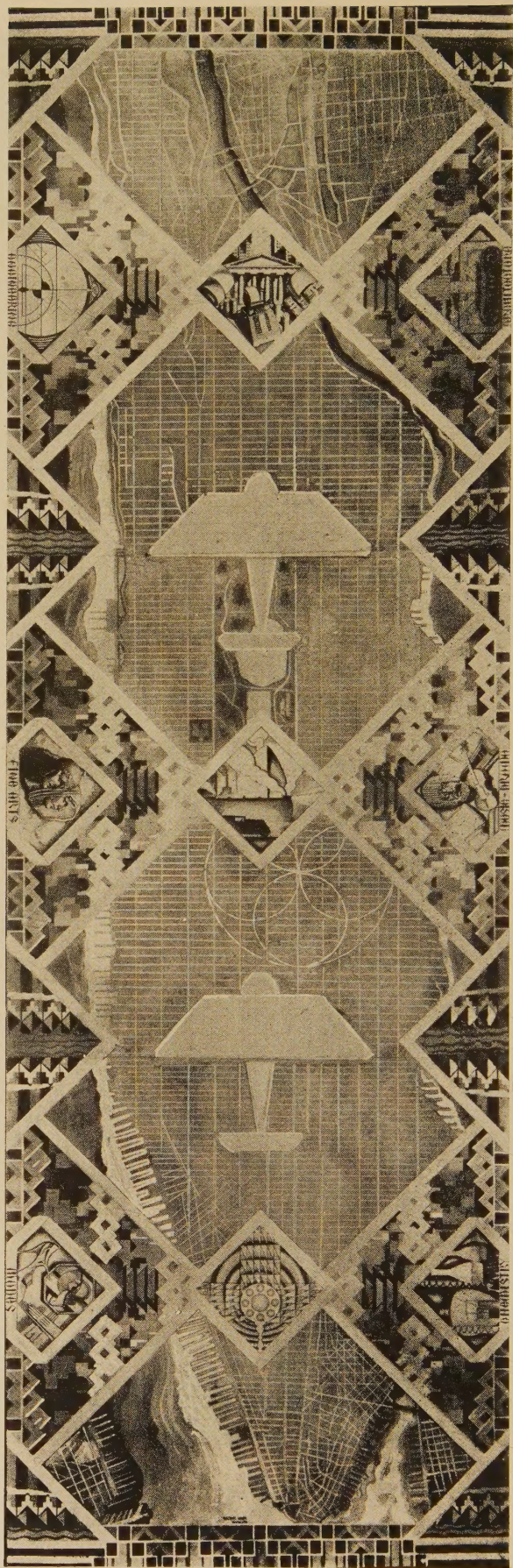
*Lobby of the Daily News Building, New York City
John Mead Howells and Raymond Hood, associated architects
D. Putnam Brinley, painter of the revolving central globe*



*Design for ceiling of main lobby, 1 Wall Street, New York City
Voorhees, Gmelin & Walker, architects
Designed by Kimon Nicolaïdes; executed by Hildreth Meière*

« ARCHITECTURE »

*Ceiling of main lobby, Squibb Building, New York City
The Firm of Ely Jacques Kahn, architects
Arthur S. Covey, painter*





*Main lobby of the Squibb Building, New York City
The Firm of Ely Jacques Kahn, architects
Arthur S. Covey, painter. The full design of the ceiling is shown opposite*

than a beehive filled with honeycomb has an interior. His building at its base has nothing to distinguish it from other buildings. Like mice we creep along these bases looking for a hole wherein we may enter, having difficulty to find the right hole for a particular building.

Once we have entered we find ourselves just inside another hall or lobby. Architects are constantly asserting that it is not the design, style, mass or exterior effect that makes for a great building, but that its function, its relation and its use to men is all that matters. Is not the entrance, the gateway to the building, the logical place to establish this contact with no degree of uncertainty?

In many countries and in our own Southern cities the spotless doorstep has long been a symbol of the cleanliness of the entire house. Should not the doorways of these vast commercial buildings be the one symbol of beauty, of interest, and of function for the entire building?

In the office building of a generation ago, the entrance hall was just a hallway, not unlike those in the old "railroad apartments." And it is surprising to note how very recently such hallways were common. The writer was asked to decorate the ceiling of just such a cramped elevator hall of the then most modern skyscraper of 1912. The lobby has made strides since this time, and we can point to some examples wherein the exterior style of the building has been brought into the vestibule and the main lobby. But for the most part it would seem that the designer of the exterior mass has been too much occupied to give thought to his diminished interior.

I have tried to show that the skyscraper office building has no immediate exterior. Its honeycombed structure leaves it no interior. Is there not an opportunity here for the designer to distinguish himself by creating a spot in the building, common property alike of tenants and patrons, where the stamp of intrinsic beauty is so impressed on the visitor that there is no possibility of doubt in his mind of the identity of the building he is in?

The straining for new materials or new applications brings no solution. I am sure that the use of many new materials, black glass for instance, has been a millstone round the neck of the new designer. His freedom ends when he regards these new materials as a modern design necessity. It is a mental overload which prevents him from arriving at new and inventive design.

That color should have been forgotten in this late period, where form has been the basis of the whole struggle, is not surprising. The strain for the new hard materials was only another effort to produce form. The use of black and white was only another evasion of color. It began in Germany and Austria when the color had become so bad it couldn't be tolerated any longer. Black and white as a vogue had of necessity a short life. Color again is coming back, giving life to the new forms and helping to hold a necessary contact with the emotional side of man.

My plea for using the color knowledge and experience of the mural painter in the commercial building is not merely a plea for painted walls or ceiling. It is a plea for color in any of its varied applications, whether applied to walls, ceiling or floors. Floors, incidentally, have been shown to have wonderful possibilities, for it is undoubtedly true, as a well-known mural painter recently remarked, that "more people look down than up."

The painter is only asking that his very special knowledge be brought into play in the designer's office, just as the engineer, the materials men, the lighting experts, are brought to the conference table in the early stages of planning.

The architect must, of course, have the vision. I believe there are men in the field who see, as Goodhue saw, that there are talents in the field of the affiliated arts useful to them.

Modern painting has also been in search for new forms. Possibly it has been the plant from whence new forms have sprung. But the purely modern painter has pursued a course of individualistic research. He has refused to be put into the harness which building collaboration implies. Unless modern painting is brought into some useful decorative function, sharing the styles of contemporaneous architecture, it would seem that it, modern painting, will fail to come to a stage of fruition. Architecture is the parent trunk and must supply the sap which in turn brings forth blossoms and fruit.

The material used to illustrate this article was chosen from among some of the newer buildings where the lobby is carried out in harmony with the exterior, and, where color was used in decoration, the painter was brought into the early planning of the building. The marked degree of success attained, in arriving at a unity of design, furnished the stimulus for this article.

Paul Philippe Cret

By Rayne Adams

IN the small place where the Loire is spanned by an ancient bridge and on which the Musée de Tours faces, there are two statues, symmetrically placed. They are the statues of Descartes and Rabelais. Long ago Henry James pointed out that these two statues, so strangely brought into each other's presence, symbolized the opposite extremities to which the French genius has travelled. I remember wondering, when I saw them, what would happen if they suddenly came to life. Would they be able to say anything to each other? Very likely Descartes would think Rabelais trivial and Rabelais would consider Descartes too *triste* to be worthy of a laugh.

Paul Cret, very different from either, would understand both. He looks at the world through spectacles such as were worn by Emile Littré—one of the most erudite of men—but the eyes that see are those of Gavroche, even

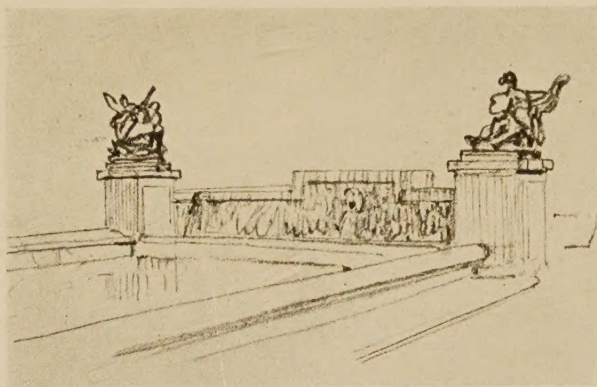
These three sketches were made by Paul Cret while a poilu, Chasseur Alpine, in 1915. C. L. Borie, Jr., had sent him a snapshot



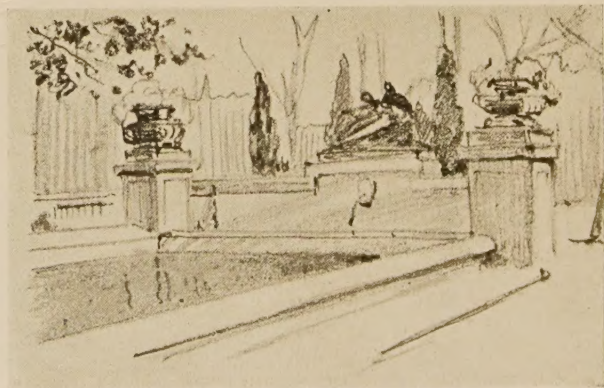
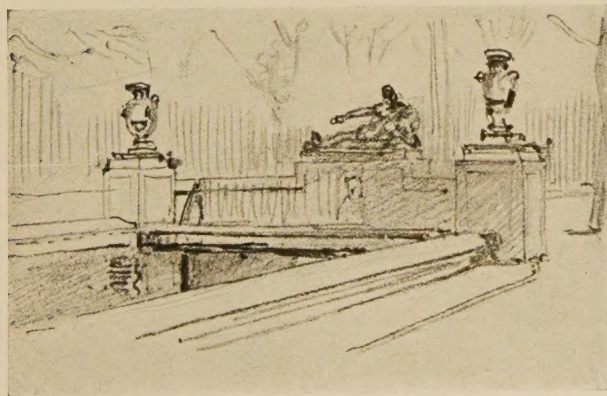
Mr. Cret receiving the Philadelphia Award, or Bok Prize, for 1931

though it be a Gavroche more etherealized than the gamin of Hugo. And in order to sense the way in which Cret works out his architecture, it is helpful to trace the main roads of his pilgrimage from the ramparts and cathedrals of the Middle Ages, made known to him in his youth by the pages of Viollet-le-Duc, to the interpretation of the architecture of modern America.

An Englishman happened to write "The Logic of Death," but logic has never been deified in Anglo-Saxon thought. One might easily conceive of "The Logic of Life" being written by a Frenchman, though its conclusion might be a disheartening one, for, whether the French reason further than the Anglo-Saxons or not, they are credited with a greater willingness to face the conclusions to which their logic brings them. This hardihood, together with a willingness to accept the tradition of formality, has produced a special type of academic thinking. The ideal of ordered



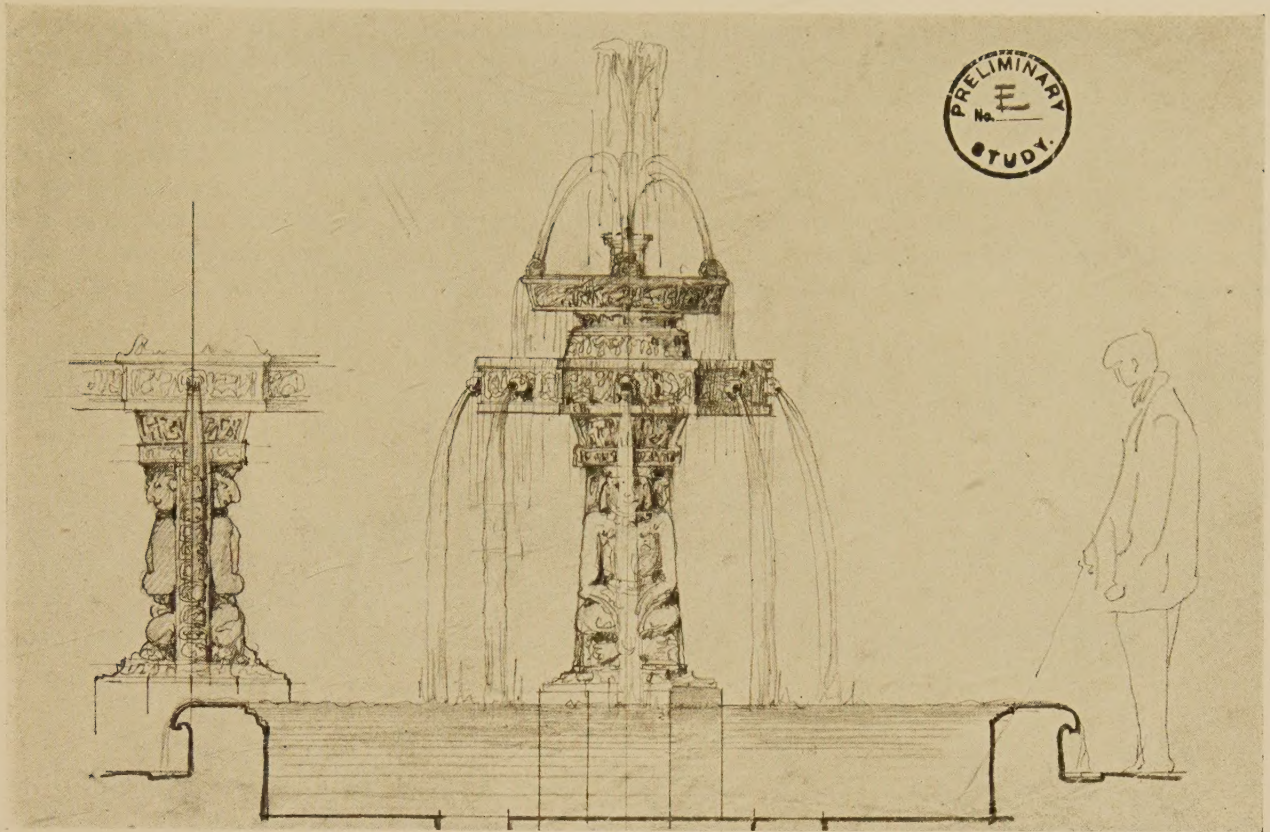
of the pool in Rittenhouse Square, asking a design for a memorial as provided for in the will of Dr. J. William White





First design for back of pool, Folger Shakespeare Memorial, Washington. Below, part of Paul Cret's own full-size detail in charcoal, made on a vertical board. Mr. Cret leaves little to the modeller's judgment





Early study by Paul Cret for a fountain in the patio of the Pan-American Union, showing the use of Aztec motives. The fountain was later executed in pink marble by Mrs. Harry Payne Whitney

thought is admirable; yet if it expresses no more than a *method* of thinking, it lasts but for a season. Its wheels squeak as they go round. Oceans of ink have been spilled in the setting forth of the underlying principles of architecture. That principle which for scores of years has held sway in the French schools of architecture is that architecture must be reasonable in its expression. Yet this principle—which, in a different key, is identical with the air now being trumpeted by the adherents of modernistic architecture—is, like all others, empirical. If the design, the modernist says, is logical, if the function of the building is expressed, the result is, or should be, æsthetic. If it isn't, something is the matter with our eyes—and our prejudices.

A man must enter his house: *ergo* his house has doors, and if these doors permit him to enter properly, they are beautiful—or they should be, if the world were not standing on its head. The nose, says Doctor Pangloss, is properly made to carry spectacles—and, be it noted, we have spectacles. But difficulties of a sceptical nature do not cloud the skies of the rationalizing philosopher. And, in the middle

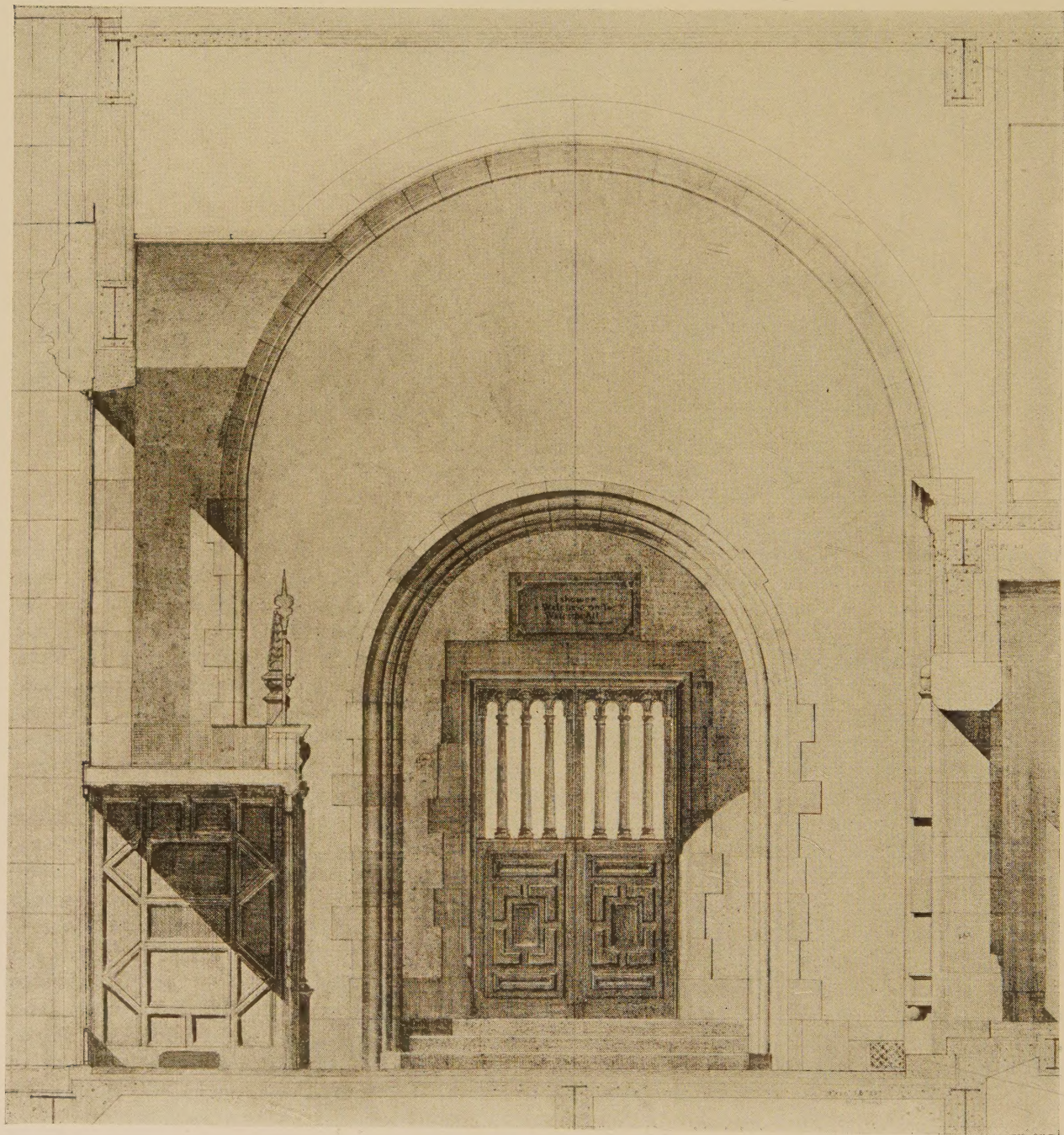
of the last century there appeared in France a master of architecture who believed that he had set his finger on the secret spring of the arcanum of architectural expression. His name was Viollet-le-Duc. His passion was set forth in the twelve quarto volumes which constitute the "Dictionnaire de l'Architecture." He believed that the principles of Gothic construction were of the essence of reasonable architecture.

When Paul Cret was still a young man the sun of Viollet-le-Duc was no longer in the ascendant; yet there was power in its rays. They lighted, metaphorically, the bedroom where Cret pored over the pages of "The Dictionary" while the rest of the house slept. For him the architecture of Rome and of the Renaissance were makeshifts and hybrid conceptions, and they were dismissed as being hardly more than the simulacra of reality. And though Cret came later to accept classic architecture and to work out his conceptions in terms of its forms, yet it was by grace of his first becoming acquainted with the Italian Gothic work of Northern Italy where one finds the Gothic and classic forms

united in an unholy wedlock. This transitional work served, however, as the stepping-stone, and when at last he went to Paris, the logic of the École des Beaux Arts superseded that of Viollet-le-Duc.

It is not strange to find that Cret is a believer in documents. I am sure that Viollet-le-Duc would approve of this characteristic, even though the documents do not lead to Gothic in-

terpretations of architecture. A document is, by the very reason of its being, as Aristotle would say, a thing of importance. The fact that history is built on documents, and that most documents are false or misleading, has no bearing on their importance in furnishing a point of departure. And Cret refuses to let the wings of his architectural imagination unfold until he has fortified his intellect with all such



Section through vestibule of Folger Shakespeare Library, showing entrance to Shakespeare Theatre. Drawing by Wm. H. Livingston in color, in preparation for the working drawings, in the manner followed with all studies in Mr. Cret's office



Section through front stage, Shakespeare Theatre in the Folger Shakespeare Library. Drawn by Charles Ward—a study in colored pencil on tracing-paper, in preparation for the linen contract set



Another example of the thoroughness with which Mr. Cret's office makes drawings. This is for issue to the millman—a truss finial, drawn by Wm. H. Livingston

data of an important nature that he can gather. With many the study of the works of others, or of the thoughts of others, blockades their self-expression. There are those, on the other hand, who find the meticulous examination of the data relating to a problem almost as inspiring as the problem itself. And Cret is one of these. The reasonable way in which to design a museum is to understand first what a museum is, or, at least, what it has been considered to be; the way to understand what a museum is, is to study the documents.

Armed thus with his documentary knowledge, how does Cret visualize his work? Somewhere from out of the past, perhaps under the stimulus of Viollet-le-Duc, Cret acquired the habit of visualizing a building first in terms of its section. Naturally enough, one who has

long practised architecture with the skill shown by Cret must keep his section, plan, and elevation in the air, pretty much as the juggler keeps in constant motion the balls he tosses. Still, as the juggler must perforce toss one ball before the others, thus establishing a sequence, so Cret thinks first of his section. And after all, the section often tells the story best—at least the hardest part of it. A concrete example of a building in which the conception of the section played a dominant part, is the Pan-American Building in Washington. This building was intended for reception purposes; it was the conception of the section that gave an answer which satisfied the conditions of the problem. And one has only to stand in the patio to realize this.

Cret's relationship to his draftsmen is that of a *patron*. The draftsmen are his *élèves*. However the elfin spirit moves, he bears the aspect of the teacher. Life may be a *sale blague*, but one has to be serious. Therefore the draftsmen are taught to draw, to cast shadows, to letter, to render—especially to render—and to write specifications, if need be. And Cret sets them the example. Everything must be done thoroughly, no matter if one does laugh in doing it. Life means labor. Even the full-size detail drawings of cornices and belt courses—as of every other type of architectural motif—are rendered commonly in charcoal in the manner illustrated by the detail shown on this page. That drawing, I am sure, would have pleased Sir Christopher Wren. Unlike the criticisms given so frequently by the *patrons* of the *ateliers* of the École, Cret's criticisms do not consist of a few suggestive lines; he is much more likely to redraw the whole bally thing. It is not strange that the modeller fated to work out in clay the decorative details of Cret's buildings finds that his labor consists chiefly in finding out what he is supposed to do.

Perhaps one should note, by way of epilogue, that after years of rationalization in working out his architectural conceptions, Cret admits a tendency to lean more toward the logic of feeling. Perhaps his early master, Viollet-le-Duc, would not object to this, since, in the last analysis, any logic is a matter of reasoning. But I doubt if the adherents of so-called modernism would approve it.



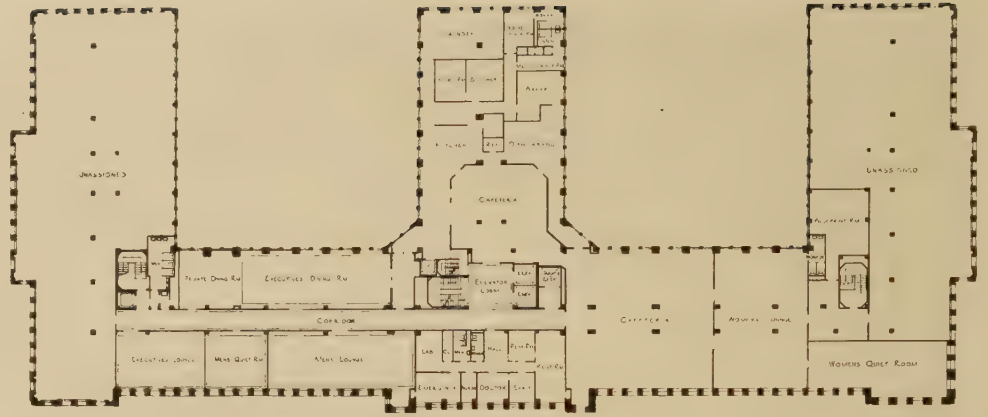
The next subject in Mr. Adams's series of analytical portraits is Mr. Frank J. Forster, of New York City.



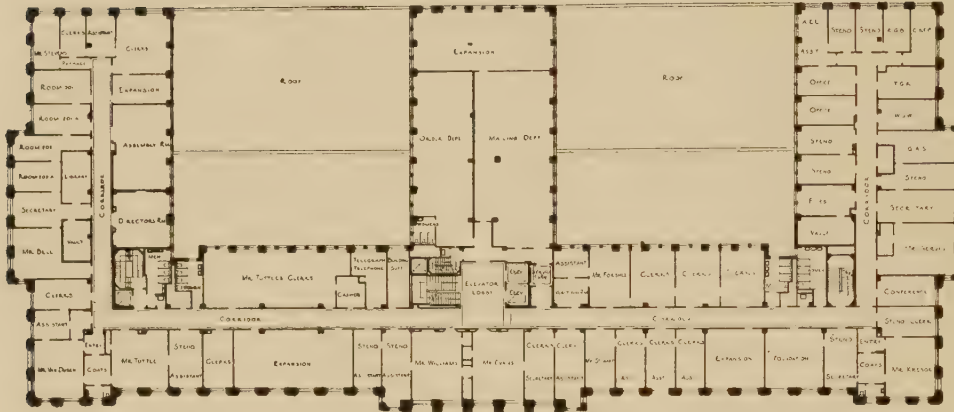
Photographs by Thomas Ellison

S. S. KRESGE ADMINISTRATION BUILDING, DETROIT, MICH.
ALBERT KAHN, INC., ARCHITECTS

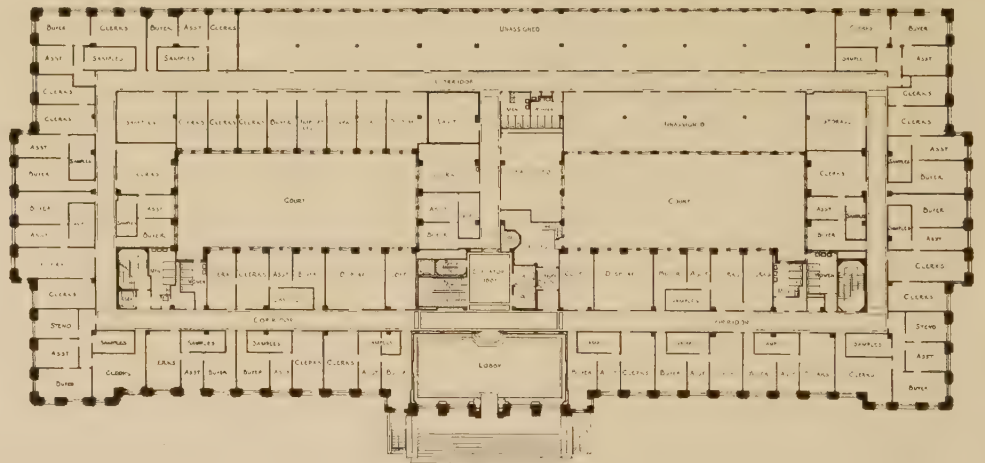
Plan of fourth floor



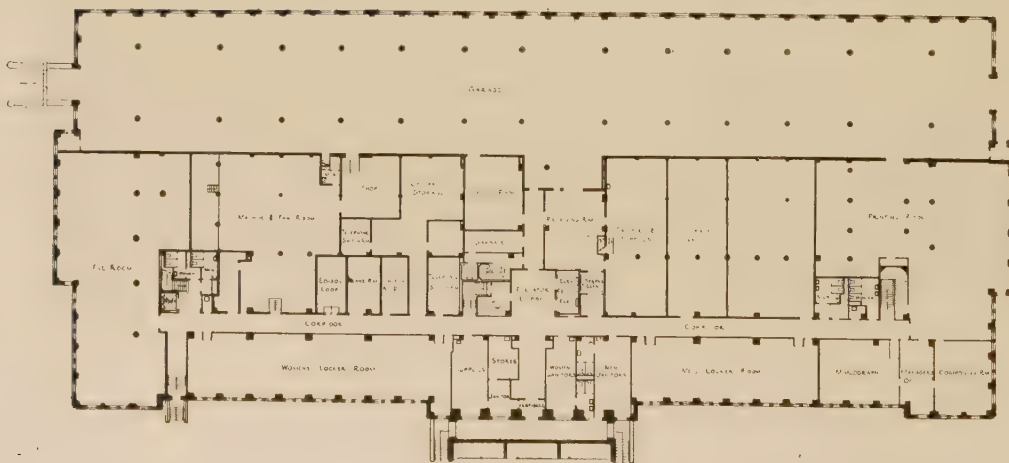
Plan of second floor



Plan of first floor



Basement plan



S. S. KRESGE
ADMINISTRATION
BUILDING,
DETROIT, MICH.
ALBERT KAHN, INC.,
ARCHITECTS



Main banking-room of the Union Trust Co., Detroit, Mich., in which the architects, Smith, Hinchman & Grylls, designed the counter screens, check desks, and end grille for execution in monel metal, laminated and incised. Craftsmanship by The Gorham Company

The Art of the Machine

By Eugene Clute

MACHINE production has long been associated with cheapness and bad taste, but that is being changed. Excellent work is being done by machine in designs made for the machine. The trouble has always been in attempting imitations of hand work by mechanical means—that is something that cannot be done well.

Time and money are often saved by machine production and the forms that are natural to it lend themselves especially well to modern design. In work in the historic styles the use of the machine is somewhat limited. These styles were developed before its advent and their ornamental detail was designed for execution by hand, but modern design affords a wide field for the legitimate use of machine work.

Doing things by hand is nothing short of an extravagant pose when it costs more without better results than could be had by the use of machinery. However, the same things cannot be done equally well by hand and by machinery; each has its own province and its own characteristics. Hand work has a life, sensitiveness, and personal quality that machine work can never have. Machine work, at its best, has a perfection, smartness and dynamic quality that hand work cannot approach. Very often nowadays these qualities of machine work are exactly what is needed in the ornamental features of our buildings.

Modern ornamentation is frequently worked in the material as a composition of light and shade formed by raised or depressed areas, sometimes with the aid of color, or by solids



Counter screen of Benedict nickel and bronze in the National Exchange Bank, Brooklyn. Corbett, Harrison & MacMurray, architects. Details on the opposite page

and voids, without any attempt to represent the forms of objects in Nature or even to recall them indirectly by means of abstract lines. Much of our ornamental detail is constructional, built up in such a way that the construction forms the design. Instead of borrowing the beauty of flowers or other objects, the

surfaces develop their own beauty in the materials.

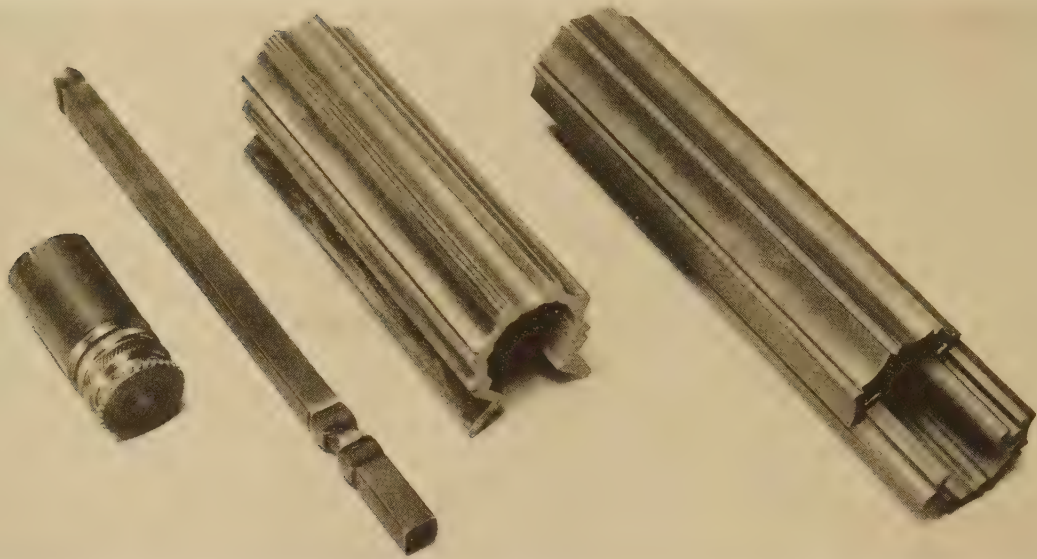
We are surrounded by machinery, trains, elevators, and automobiles; great piled-up rectangular masses that catch the light; straight lines meeting at angles, horizontal, vertical, and slanting lines; wheels that turn incessantly.



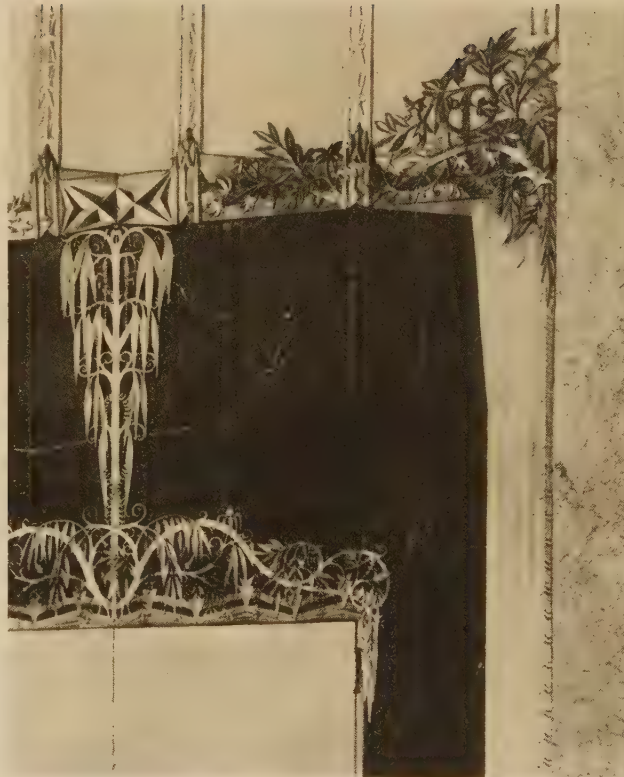
Main entrance, Squibb Building, New York, in which the Office of Ely Jacques Kahn designed a grille to be executed by machine work. Reliance Bronze and Steel Corporation, craftsmen



Elevator doors in the Union Trust Co. Building, Detroit. Smith, Hinchman & Grylls, architects. Monel metal, colored glass, and machine piercing and incising. Dahlstrom Metallic Door Co., craftsmen.



A few examples of what the machine will do. Beginning at left, bronze bar turned and knurled; square bar pinched; extruded bronze section used for an engaged column; fluted column extruded in one section which interlocks when reversed



Entrance door to auditorium, New Jersey Bell Telephone Building, Newark. Voorhees, Gmelin & Walker, architects; craftsmanship by General Bronze Corporation. A combination of cast and extruded bronze

There is a din of clicking, whirring, and crashing sounds, but there is rhythm in it and an expression of controlled forces. These things get into our art.

Modern design, whether it be mechanistic, constructional, stylistic, abstract, or of any other existing or future type, must of necessity be composed in conformity to the age-old, unchanging principles that underly all good design. A composition of stems, leaves, and flowers and one of square bars, cubes, and rings are subject to the same laws of design. The former, however, is not adapted to machine production and the latter is. Many of the designs we find it desirable to use contain parts that cannot be made properly by machine; therefore it is often well

to combine machine work with hand work.

In order to suggest some of the possibilities that lie in machine work designed for the machine, a number of recent examples are shown here. Though all are from the field of ornamental metal

work, the principles they embody are characteristic of good machine production in general. These few examples will serve to indicate the thought, artistic ability, and initiative which are being put into the development of the artistic possibilities of machine production. They represent but a fraction of the good work that is being done in one field alone, but they are typical of the progressive spirit that is giving new life to all of the arts allied to architecture.



Photographs by Louis Dreyer

"The Wind," a garden statuette in bronze

David Evans, after securing all the prizes possible in Manchester, won a scholarship in the Royal College of Art. The war interrupted his career temporarily, but he went back to winning scholarships and prizes, culminating with the Prix de Rome for sculpture. George G. Booth noticed a little piece of pottery at the 1929 Metropolitan Museum Exhibition, bought it, and afterward looked up its designer in London. Mr. Booth persuaded him to come to Cranbrook Academy as professor of sculpture—a sort of visitor's faculty chair now occupied by Carl Milles. David Evans is perhaps known best for his portrait busts of John Galsworthy and Hugh Walpole, and for two memorials in Liverpool Cathedral. He is at present engaged on some corbels that were never completed in St. Thomas's Church, New York

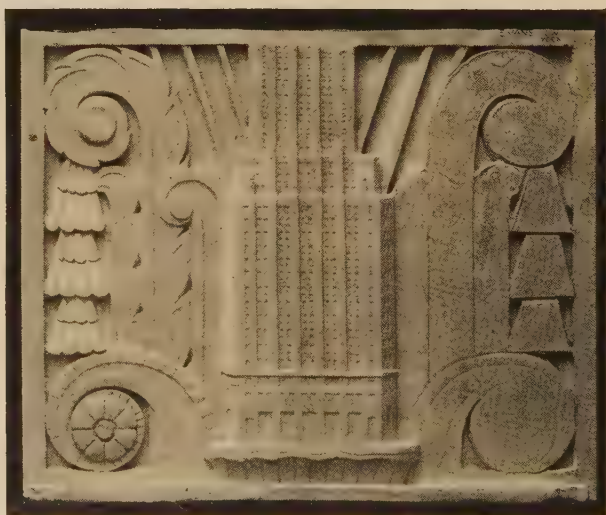
Some Recent Sculpture by David Evans

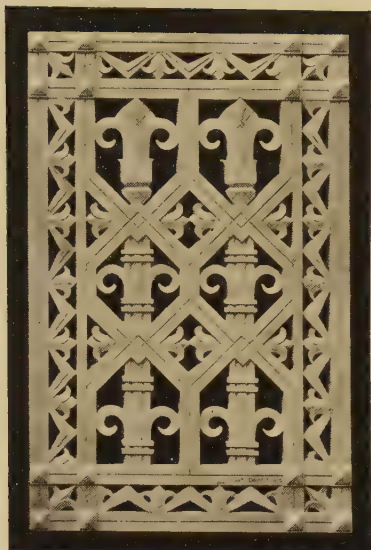


*Pilaster caps and
cornice for City
Bank and Trust
Company, New
York City*



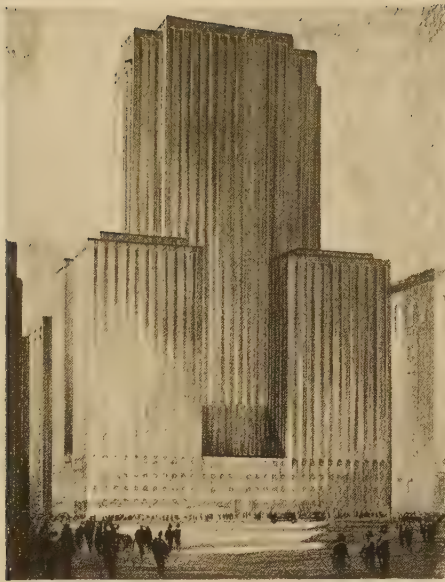
*To be carved in
wood. Cross &
Cross, architects;
David Evans,
sculptor*





Grilles for City Bank and Trust Company, New York City. To be executed in white metal. Cross & Cross, architects; David Evans, sculptor





The proposed Marshall Field Building in the Loop, Chicago. Graham, Anderson, Probst & White, architects



The bronze statue of Junipero Serra, one of two statues to represent the State of California in the National Statuary Hall, Washington, D. C. Ettore Cadorin, sculptor



The proposed Lawson Memorial Y. M. C. A. Building, Chicago. Perkins, Chat-ten & Hammond, architects



The L. P. Hollander Com-pany Building on 57th Street, New York City, for which Shreve, Lamb & Harmon re-ceived the Gold Medal of the Fifth Avenue Association

Architectural News in Photographs

Tentative study of the proposed Court of the States, the Chicago World's Fair, 1933. The States Building will probably surround a central unit occupied by the Federal Government. It will stand adjacent to the Adler Planetarium



Above, one of the portals in the proposed Court of the States, Chi-cago World's Fair, 1933, in-side of which the State will tell its own story of its cen-tury of science



Sports Building for the College of New Rochelle, New Rochelle, N. Y., to be built of brick in six different shades. Office of Henry J. McGill, architect



The Worcester Pressed Steel Company has built an office building of steel and glass. J. D. Leland & Company, architects and engineers



The tentative model for the proposed development of three city blocks in the heart of New York by Mr. John D. Rockefeller, Jr. The architects collaborating are Reinhard & Hofmeister; Corbett, Harrison & MacMurray; and Raymond Hood, Godley & Foulhoux

Grand Street Apartments, for which Springsteen & Goldhammer were awarded the medal of the New York Chapter, A. I. A., for the best apartment house of 1930



The one-story house awarded the Gold Medal in the Better Homes in America competition. Reginald D. Johnson, architect



BOOK REVIEWS

MEMORIES. By GLENN BROWN. 579 pages, 6 by 9 inches. Frontispiece. Washington, D. C.: 1931: W. F. Roberts Co. \$5.

The architectural life of Glenn Brown covers one of the most active periods in American architectural development. In his fifteen years of service as Secretary of the A. I. A., Mr. Brown came into intimate contact with McKim, Saint-Gaudens, F. D. Millet, Roosevelt, Taft, Root, and James Bryce. These particular memories, while covering his own active life, focus upon the subject which has always been nearest his heart, namely, the architectural development of the city of Washington. All in all, a significant document in American architectural history.

AMERICAN STANDARD SAFETY CODE FOR MECHANICAL REFRIGERATION. Sponsored by THE AMERICAN SOCIETY OF REFRIGERATING ENGINEERS. 31 pages, 6 by 9 inches. Pamphlet binding. New York: 1931: American Standards Association.

The carefully developed precautions devised by the industry to prevent improper installation or use of technical equipment in refrigeration.

CONSTRUCTION JOINTS IN CONCRETE—Bonding New Concrete to Old. Building Research, Special Report No. 16. By NORMAN DAVEY. 75 pages, 6 by 9½ inches. Illustrations from photographs and diagrams. Pamphlet binding. Printed in Great Britain. London: 1930: His Majesty's Stationery Office (The British Library, 551 Fifth Avenue, New York City, Agents). 55 cents.

THE MEASUREMENT OF SOUND ABSORPTION. By V. L. CHRISLER and W. F. SYNDER. 16 pages, 6 by 9 inches. Illustrations from diagrams and photographs. Research Paper No. 242. Reprint from Bureau of Standards Journal of Research, Vol. 5, October, 1930. Pamphlet binding. Washington: 1930: U. S. Department of Commerce, Bureau of Standards. 10 cents.

AN INTRODUCTION TO PERSIAN ART SINCE THE SEVENTH CENTURY A. D. By ARTHUR UPHAM POPE. 256 pages, 6½ by 9½ inches, and 103 plates. Illustrations from photographs. Printed in Great Britain. New York: 1931: Charles Scribner's Sons. \$4.

The first real attempt in any language to deal with the arts and crafts of Persia as a whole. The author, who is Director of the International Exhibition of Persian Art, London, this year, Honorary Adviser in Art to the Persian Government, and Director of the American Institute of Persian Art and

Archæology, deals specifically with architecture, ceramics, books, carpets, textiles, metals, gardens, and various minor arts.

THE AMERICAN SOCIETY OF HEATING AND VENTILATING ENGINEERS GUIDE. Vol. IX. 983 pages, 6 by 9 inches. Illustrations from diagrams. New York: 1931: American Society of Heating and Ventilating Engineers. \$5.

Reference data useful in the design and specification of heating and ventilating systems together with a manufacturers' catalogue data section and complete index.

SELECTED FURNITURE DRAWINGS. By WILLIAM W. KLENKE. 66 pages, 8½ by 10½ inches. Illustrations from photographs and drawings. Peoria, Ill.: 1931: The Manual Arts Press. \$3.

Working drawings and photographs of the resulting furniture—a book primarily for manual arts training, but useful also to the home craftsman.

MODERNE KERKEN IN EUROPA EN AMERIKA. By PROFESSOR IR. J. G. WATTJES. 19 pages, 9 by 12 inches, and 303 plates. Illustrations from photographs and drawings. Holland: 1931: N. V. Uitgevers-Maatschappij "Kosmos," Amsterdam. Fl. 17.50.

Professor Wattjes has published several works dealing with the contemporary architecture of his own country and neighboring lands. In addition to the better-known examples of churches, such as the Högalid, the copper and glass church at Cologne and Raincy, there are scores of other examples, shown usually by photographs and plans.

YEAR BOOK, AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS. 10 pages, 10 by 12½ inches and 213 plates of photographs and plans, with an advertising section. New York City: 1931: The House of J. Hayden Twiss. Cloth, \$5. Paper, \$4.

The interest and significant value of these records of achievement seem to increase with each succeeding year, and this is certainly no exception.

STRENGTH OF WELDED SHELF-ANGLE CONNECTIONS. By JAMES H. EDWARDS, H. L. WHITTEMORE and A. H. STANG. 12 pages, 6 by 9 inches. Illustrations from diagrams and photograph. Research Paper No. 230. Reprint from Bureau of Standards Journal of Research, Vol. 5, October, 1930. Pamphlet binding. Washington: 1930: U. S. Department of Commerce, Bureau of Standards. 10 cents.

The Liturgical Requirements of Churches

IV. THE ALTAR AND ITS FURNISHINGS

By F. R. Webber

✠✠✠✠✠ **E**VERY liturgical church must have an altar. There is nothing in a church that so certainly distinguishes a liturgical church from a non-liturgical one. It must not be an altar in disguise, or a mere communion table. There are certain principles, governed by tradition, church rubrics, and liturgical requirements, which distinguish a true altar from a makeshift arrangement used "to give the effect of an altar."

The altar, as well as all the other chancel furniture, ought to be designed by the architect. Even though the church be a small and inexpensive one, it is essential that the architect be allowed to work out a complete scheme for chancel furniture. To buy such things ready-made and at random is seldom a good procedure. If funds are limited, the architect may work out a scheme for good temporary furnishings, to be replaced from time to time by better ones, as funds become available.

It is a simple matter to design an altar that is correct in every respect. And yet for some strange reason one seldom finds an altar that does not violate some principle of correct design, or some liturgical principle. Many an altar, for example, is quite out of scale with the chancel, and is a disturbing feature.

The height of an altar is the only dimension that is fixed by hard-and-fast rules. Custom and convenience have combined to formulate the rule that the mensa, or flat upper surface of the altar, be 3 ft. 3 in. above the floor upon which the altar stands, no more, no less. Since the sacramental vessels must rest upon the mensa, and since there must be an altar-book resting upon a convenient missal-stand resting upon the altar, a variation of an inch or so in the height of the mensa is a serious matter. If the old rule of 39 in. be observed, one cannot go wrong.

The length of the altar depends upon the size of the chancel. No high-altar ought to be less than 8 ft. in length. In a small chapel a 7-ft. altar is sometimes used. Altars in side chapels may be 7 ft. long or even less. A good general rule is to make the altar somewhat longer than one-third the width of the chancel.

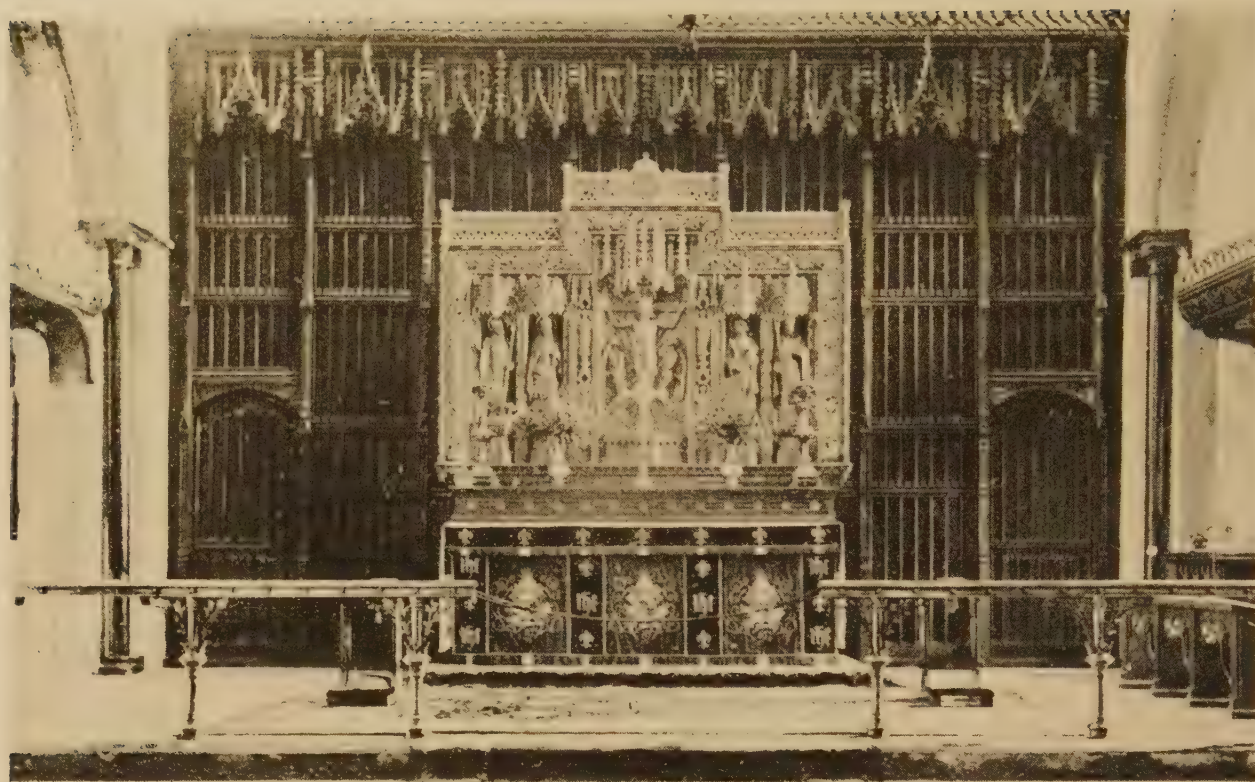
Thus a chancel 18-20 ft. wide will require an 8-ft. altar. Our American altars are almost always too short to be in good scale with the space they fill.

The depth of the mensa depends upon the type of altar used. Our American altars generally have a retable fastened to them. This is a shelf, about a foot wide and as long as the altar, and elevated 5 or 6 in. above the mensa. It resembles a step. While very common, yet this arrangement is not the ideal one. If this retable be used, then the width of the mensa cannot be more than 22-24 in., otherwise one could hardly reach the candlesticks and vases of cut flowers on the retable. Since the sacramental vessels are placed upon a square of fine linen, called the corporal, and since this is fixed by the rubrics as 20 x 20 in. in size, the top of the altar cannot be less than 22-24 in. deep.

A better plan is to allow the altar to stand 2 ft. or so away from the reredos, or wooden background of the altar. If this be done, the shelf for candles and vases of flowers may be omitted, and the candles placed directly upon the mensa. If the altar stands 2 ft. or so away from the reredos, then the mensa may be 3 ft. in depth and unencumbered by gradines or retable. The ideal type of altar would seem to be that which stands somewhat away from the reredos, and which is 9 ft. long, 3 ft. in depth and 3 ft. 3 in. high. These proportions will be found correct for a chancel 20-24 ft. wide.

Just why we insist in this country upon building a gradine, or retable, upon our altar is a difficult matter to answer. Old engravings and inventories disclose the fact that this shelf, fixed to the back of the altar, dates only from the sixteenth century. Before that time altars had no elevated benches for the candlesticks. In fact the best pre-Reformation practice was to place two candlesticks directly upon the mensa.

The altar generally has a tabernacle, or else a raised pedestal for the cross, resting upon it. In Roman Catholic and in some Anglican churches this is a true tabernacle, with a door. Occasionally this is found in Lutheran churches. However, in the majority of Episcopal and



The altar and reredos of Chichester Cathedral

Lutheran churches the tabernacle takes the form of a raised base for the cross. This base is about 12 in. square by 13-14 in. in height. If it be a true tabernacle, then it must have a swinging, tightly fitting door, provided with a lock and key.

Upon the flat upper surface of the altar it is customary to cut five Greek crosses. One of these is in the exact centre of the mensa. The other four are placed close to each corner of the mensa. The cross in the centre may be from 3-4 inch. in size, and the smaller ones in the corners about 2½ to 3 in. These crosses are cut with V-shaped incisions. A plain Greek cross with arms of uniform width is not as graceful as one whose arms are narrow at the intersection and curve outward slightly toward the ends. These crosses are used almost universally in all liturgical churches. They represent the Five Wounds of Our Lord.

The best material for an altar is stone. If it can be obtained, a single great block of stone is the ideal thing. However, this is quite costly, and it likewise involves the use of heavy foundations. The next best thing is to use heavy slabs of stone. The mensa, of course, must be a single piece of stone. If marble be used, some sort of a dull finish is better than the polished kind, which one of our noted architects has called a

glorified soda fountain. Where strict economy must be practised, the architect may have to fall back upon wood. This is unfortunate, but it is not necessarily fatal to good design, for countless wooden altars exist, and doubtless will continue to exist. It would be well to avoid a projecting base and possibly to include an overhang of the top member, else foot room becomes cramped for the officiating priest.

An altar itself is not of sufficient size to provide the proper *dominant* so necessary in the case of a satisfactory church interior. Moreover, the altar is horizontal, and the end wall of the chancel is decidedly vertical. The universal solution of the problem is the reredos, or sometimes the dorsal curtain. A reredos is an ornamental background for the altar; it may be made of stone or wood. Its width is generally a little greater than the length of the altar, and its height is a matter of design. Generally speaking, we make the reredos too high. If too lofty it becomes overpowering and tends to attract attention to itself rather than to the altar. It is better to err on the side of the humble, low, English type of reredos than to erect the towering things so frequently seen in this country.

Many architects and clergymen overlook the fact that a lofty reredos or a high dorsal



Church of the Saviour, Cleveland, Ohio. Corbusier & Foster, architects. A stone altar with a temporary dorsal curtain of deep red brocade made about one-third wider than the space requires, so as to hang in folds



The altar in St. John's, West Hartford, Conn. Bertram G. Goodhue, architect

curtain actually reduces the apparent height of a chancel. It is generally assumed that a high reredos increases the apparent height of a chancel. This is not the case. We have in mind a well-known church that had no reredos when first completed. The interior height seemed immense. Later, a very beautiful and very lofty reredos was added. Not only did this singularly beautiful feature at once detract attention from the altar, but it actually makes the church seem less lofty than it used to appear. We know of another well-known church where once a high dorsal curtain was used. This was removed, and a rather low stone reredos erected instead. It actually added to the apparent height of the chancel. If we would preserve a feeling of height and of proper scale, we will strive to get away from the present mania for high reredoses and high dorsals, tall candlesticks and tall crosses. We will return to the low, unostentatious reredos, and we will use rather short candlesticks and candles. Much will be gained in the matter of scale.



Chapel altar, Lake Delaware, N. Y. Cram & Ferguson, architects

It must not be forgotten that a parish church is not a cathedral. True enough, Winchester and St. Alban's have their high stone screens back of the main altar. Winchester's is, if I remember rightly, 40 ft. high. But Winchester is a great cathedral with an interior height of 77 ft. and a length of over 500 ft. Even so, the great fifteenth-century reredos is quite overpowering. The little, low reredos at Chichester is more satisfactory, for it does not overwhelm the altar.

American architects and clergymen usually believe that the high reredos is typical of the English Gothic style. This is not true. Of the many English churches visited and photographed by the writer, we find that the typical parish church has a low east window, whose sill is seldom more than 6-8 ft. above the sanctuary pavement. This calls for a low, beautifully designed reredos. The idea ought to appeal to us, for if we use a low reredos, then we can afford a richer design and richer carving.

(To be continued in the July number)

NUMBER XII
IN A SERIES
OF
WORKING DRAWINGS

By Jack G. Stewart

This series, in which one drawing will appear each month, is designed to cover the smaller practical problems that confront the architect in his day's work. The subjects chosen are those which, while not uncommon, call for some experience and knowledge of approved solutions. Next month the subject is a Folding Partition.



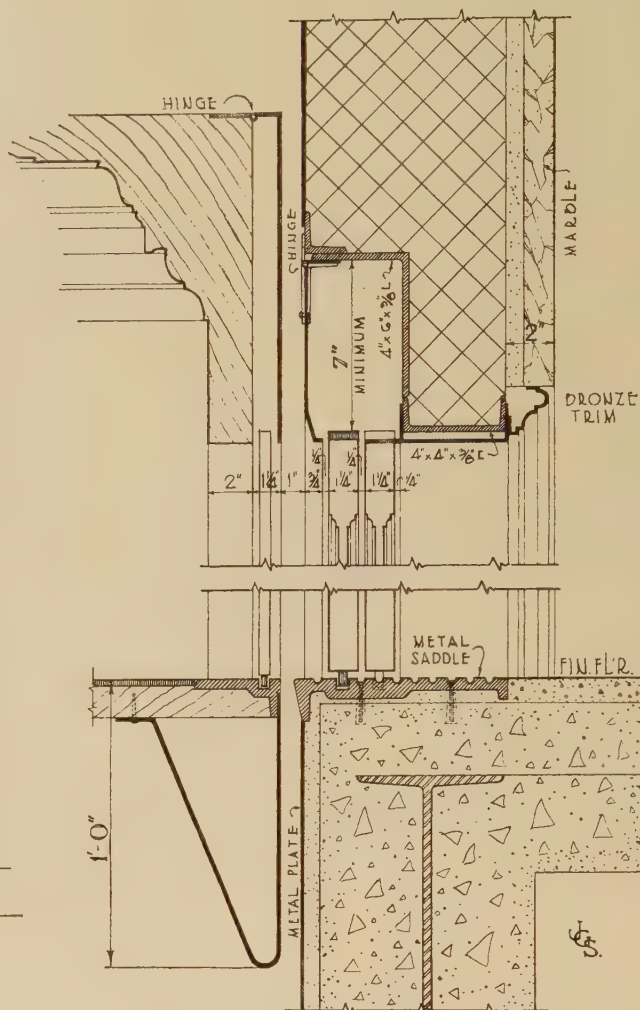
[ARCHITECTURE]
CHARLES SCRIBNER'S SONS

PREVIOUS SUBJECTS IN THIS SERIES

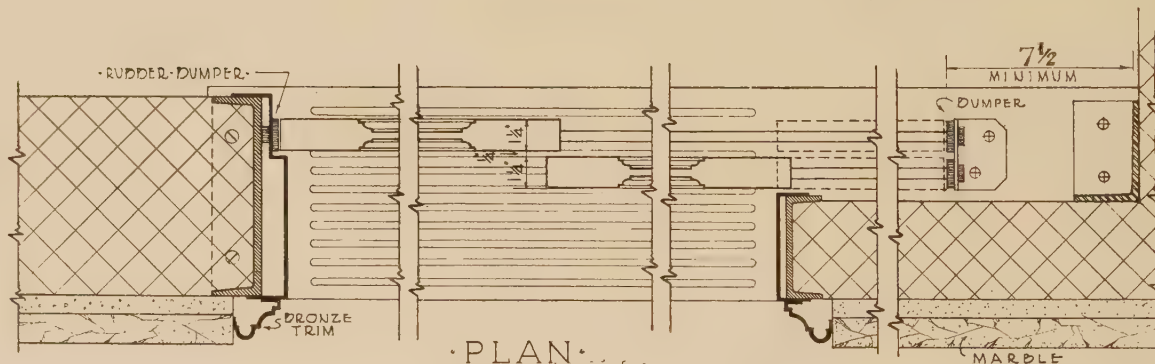
- I. FLAGPOLE HOLDER ON AN EXTERIOR WALL
- II. RADIATOR ENCLOSURES
- III. CIGAR SALES COUNTER
- IV. WOODWORK IN A LIBRARY
- V. BUILT-IN KITCHEN CUPBOARD
- VI. VARIOUS TRIMS AND MOULDINGS
- VII. TELEPHONE BOOTH
- VIII. MEN'S TOILET
- IX. WINDOW SPANDRELS
- X. CIRCULAR STAIR FOR A RESIDENCE
- XI. DETAIL OF METAL STAIR CONSTRUCTION



ELEVATION



SECTION



PLAN

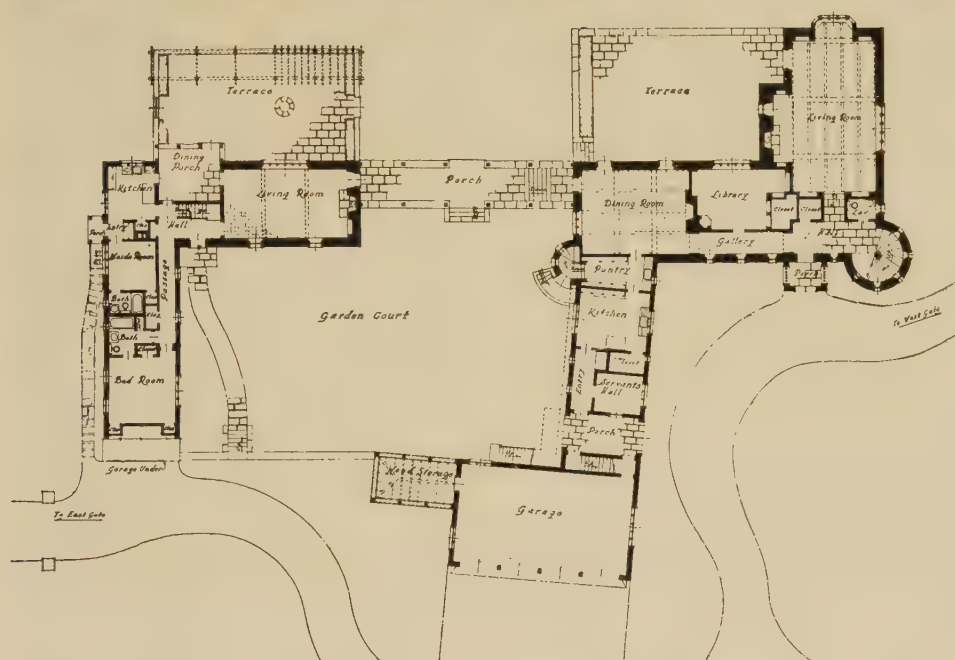
DETAIL OF ELEVATOR CONSTRUCTION

SCALE: 1/2" & 1 1/2" = 1'-0"

PLATE N° 12

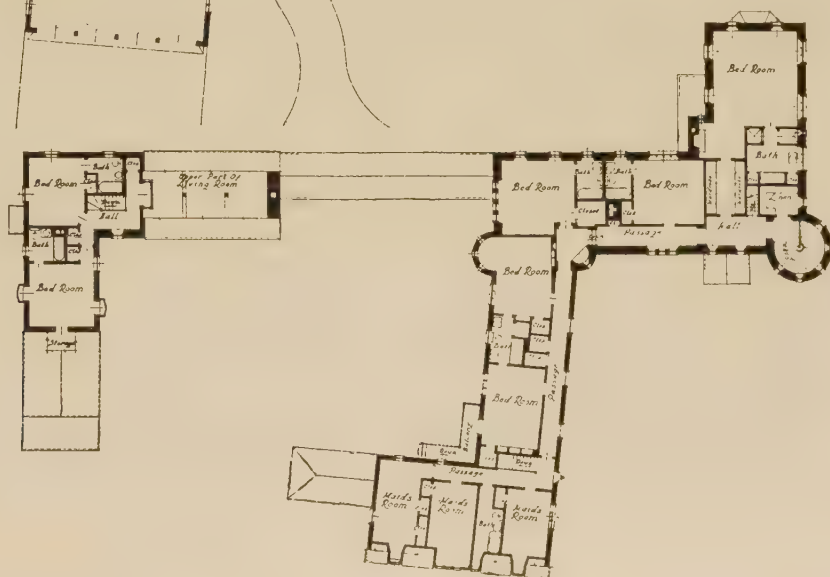


*The connecting porch
from the terrace of Mrs.
Curtis's house*



Plan of the first floors

*Below, plan of the sec-
ond floors*



COMPOSITE HOUSE OF
MRS. NATHAN T. PORTER AND
MRS. WILLIAM J. CURTIS, JR.,
HARRISON, N. Y.

FRANK J. FORSTER,
R. A. GALLIMORE,
ARCHITECTS



Terrace of Mrs. Porter's house looking toward the dining-porch
COMPOSITE HOUSE OF MRS. NATHAN T. PORTER AND MRS. WILLIAM J. CURTIS., JR.,
HARRISON, N. Y.
FRANK J. FORSTER, R. A. GALLIMORE, ARCHITECTS



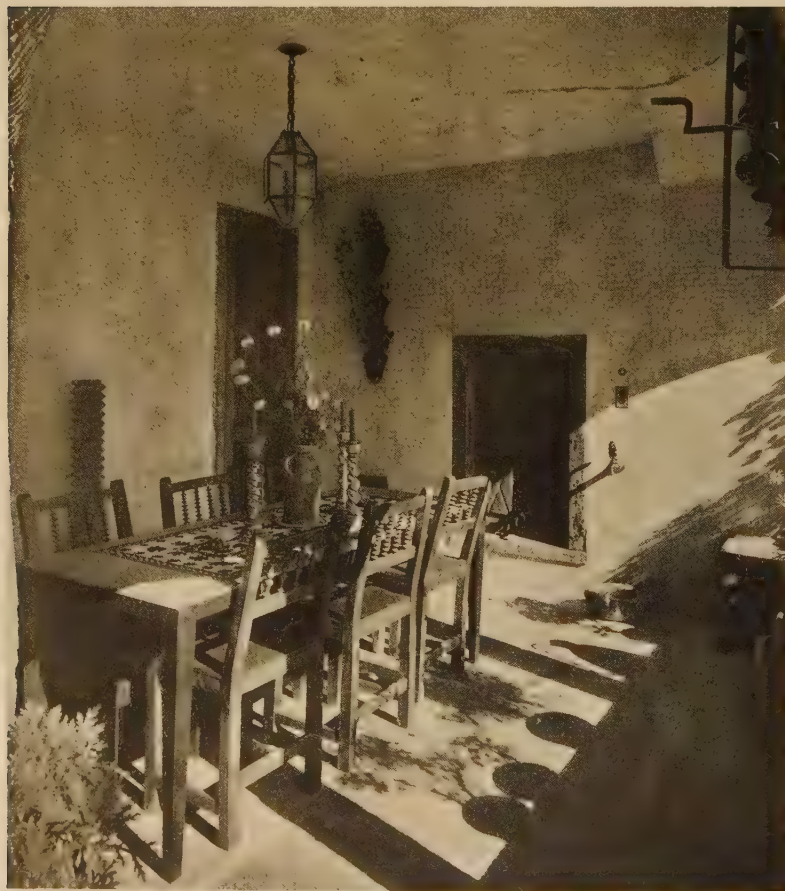
From the connecting porch looking across the garden court

COMPOSITE HOUSE OF MRS. NATHAN T. PORTER AND MRS. WILLIAM J. CURTIS, JR.,
HARRISON, N. Y.

FRANK J. FORSTER, R. A. GALLIMORE, ARCHITECTS



*Living-room in Mrs. Curtis's house
showing the recessed fire corner*



Dining-porch of Mrs. Porter's house

COMPOSITE HOUSE OF
MRS. NATHAN T. PORTER AND
MRS. WILLIAM J. CURTIS, JR.,
HARRISON, N. Y.

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R. A. GALLIMORE, ARCHITECTS



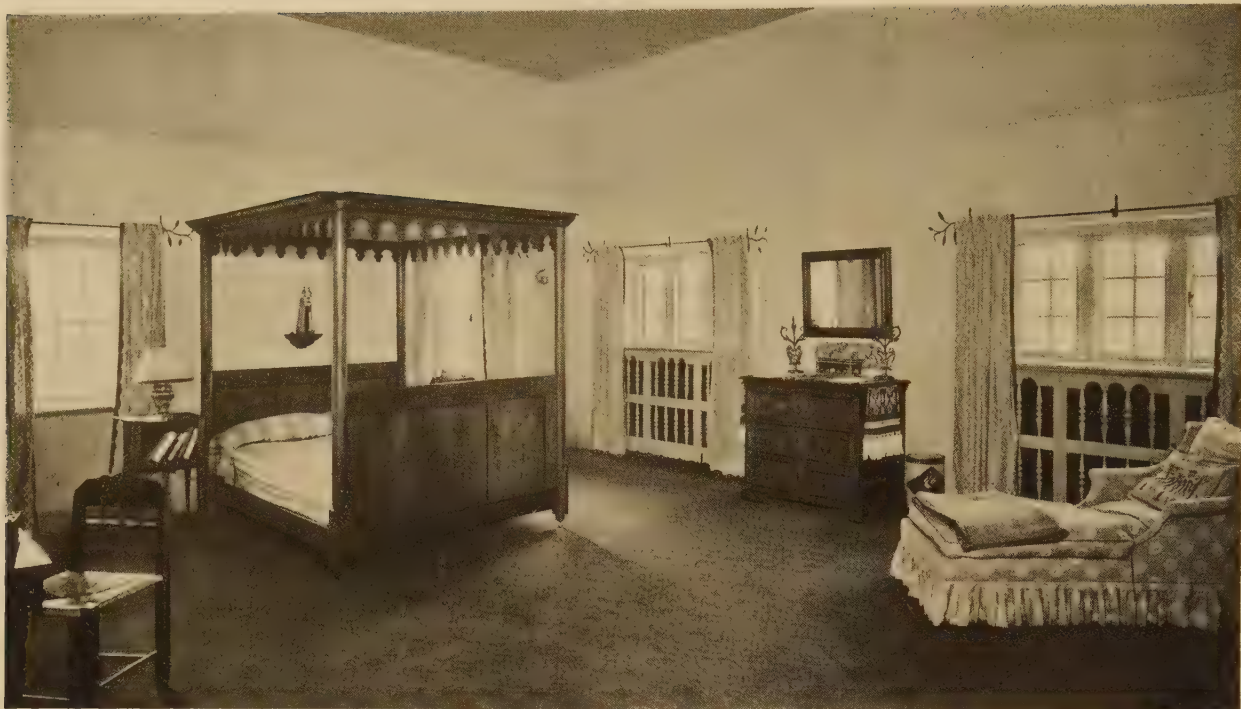
*Dining-room of Mrs. Curtis's house.
The door to the porch is at the far
corner*

*Hall in Mrs. Curtis's house with the
circular stairway at the end*



COMPOSITE HOUSE OF
MRS. NATHAN T. PORTER AND
MRS. WILLIAM J. CURTIS, JR.,
HARRISON, N. Y.

FRANK J. FORSTER,
R. A. GALLIMORE, ARCHITECTS



*Bedroom in Mrs.
Curtis's house
over the living-
room*



*The end of the
living-room in
Mrs. Porter's
house*

COMPOSITE
HOUSE OF
MRS. NATHAN
T. PORTER
AND MRS.
WILLIAM J.
CURTIS, JR.,
HARRISON,
N. Y.

FRANK J.
FORSTER, R. A.
GALLIMORE,
ARCHITECTS

Some Pitfalls in Supervision

By *W. F. Bartels*

X. PLASTERING

CONTINUED

BEFORE the white plaster is applied to the brown coat the latter should be sprinkled with water. Failure to wet the brown coat will cause the water from the white coat to soak in the brown, thus leaving the white coat without the requisite amount of moisture. This "dryness" will make the plaster difficult to work and to bring to a proper finish. It will be noticeable, because the plaster tends to break up when being trowelled, rather than spread out smoothly.

It is safe to say that very rarely is the proper amount of plaster of Paris added. This ingredient is necessary to add finish and hardness to the white coat. As it sets rapidly, the plasterer is apt to add it very sparingly. When his plaster is thick he must use more effort to get it on properly, and when he mixes a boardful he must work at a fast pace to apply it before it sets. Consequently he cannot cover as much area per day. While these factors affect him, they also tend to make the boss plasterer wink at the reduction of the essential plaster of Paris. Should the boss plasterer insist that the proper amount of plaster of Paris be used, the workmen are apt to resort to retarders of various kinds to keep the plaster from setting too quickly. If retarders are used, rather than have it done surreptitiously, it is far better to supply them to the men after ascertaining from the plaster manufacturer which are least objectionable.

Under ideal conditions plaster should have warm, dry air to make it set. It is not desirable to have it set too quickly, nor should it be subject to strong drafts, since this will tend to make it pull, and cracking may result.

The superintendent should not let the plasterer bluff him with the many ills plaster may have. When this is tried the plasterer undoubtedly has some saving of labor or material in mind. This will usually appear when he sug-

gests that the finish has been too heavy, and that a good job can be had by making the paste thinner. This is known as a "kalso-mining job," and is unsatisfactory

even though it may show a good surface for a short time. Of course such work can be done more quickly by the men, with a resulting increased profit for the contractor.

If plaster is trowelled too soon after applying it will develop cracks similar to those caused by a draft.

Soft surfaces are due to insufficient trowelling (a common fault), too rapid drying, or lack of plaster of Paris.

Cracks may be caused by various conditions. Large ones are generally due to settling and are probably not the fault of the plasterer. Other cracks may be due to shrinkage, direct air currents on certain spots, or poor bond between the brown and white coats.

Impurities in the lime will cause paint to peel off the walls. Improper burning or slacking of the lime will cause many troubles in the future, such as popping and peeling.

On special finishes, such as exterior stucco work, certain precautions should be observed. The wire mesh should be kept far enough away from the wall construction to allow a good key. The thickness of the plaster should be such that the metal will be well covered and not so thin that rust stains will show through. In outside stucco work, the superintendent should make sure that the plasterer does not attempt to combine a first coat of gypsum or any magnesite base with a second coat of a Portland cement mixture, for this second coat will not stay on.

In sand-finished work, now becoming popular, it is well to add some Keene's cement to the final coat. This is a great help in confining the sand to the wall or ceiling instead of having to sweep it from the floor, this being a common objection to a sand-finished job.

THE part of a building most used, yet least observed, is the floor. Not many apartment-house dwellers will know whether the wood floors are red or white oak, of $\frac{1}{8}$ -inch material or merely $\frac{3}{8}$ -inch "carpet" parquet. Nor will they know whether the terrazzo dividing strips are thin or heavy brass. Yet these and similar items affect the wearing quality, ap-

pearance, and cost of the floor. These are hidden yet vital factors not to be dismissed lightly.

WOOD FLOORS

Wood floors, being much the most common types of flooring, have many more varieties, and all too many liberties are taken with them.

In fireproof buildings the rough floor is generally nailed to "sleepers." The latter should be securely anchored in the floor fill or otherwise fastened with a good clip so that the flooring will develop no undulations due to loose underflooring. Still another method is the use of "nailing concrete" (one of several compositions which will take cut nails), to which the finished floor may be directly secured. The levelling of "sleepers" should not be done with wooden wedges because such practice soon degenerates into bolstering them up with clips, cardboard or anything else at hand. They should have solid pieces or blocks put under each joint. Sleepers should be laid in unbroken lengths except in the larger rooms. The rough flooring should be securely and adequately nailed, laid diagonally to the run of the finished floor. A margin should be left between the pieces composing it. Before laying the rough flooring the room should be carefully surveyed to see that all water or heating pipes are well covered and insulated. In fact it is far better to allow no piping whatsoever to intersect the floor area of the room, particularly if they are hot water pipes, but to insist that they be hung on the ceiling below if possible. If they must be between floor slab and rough floor, it should be at the side of the room, so that if in an emergency the floor must be torn up, only the border will have to be removed. Further, any slight swelling or shrinkage is less noticed here.

In non-fireproof buildings as in the fireproof, the rough floor should be laid diagonally to the finished floor. Best suited for the rough floor in this type of building is lumber known as shiplap. It should be nailed to each beam. Before the finished floor is laid the superintendent should see that the proper grade of paper is placed over the rough floor.

While the finished floor is being laid it is up to the superintendent to see that it is well nailed and that it is properly tongue-and-grooved. Often, where two grooves meet, either at the side or end of a piece of flooring,

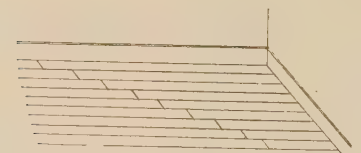
the workman will neglect to insert a tongue, which often results in this section of flooring curling up. Nails should be about a foot apart.

Where strip flooring is being used the joints should be well staggered. To enforce this with the average floor layer is indeed a task, but a good workman will readily accede to it. To run the joints in "steps" is the easier and quicker way to do it, but this method is far less pleasing to the eye, because it creates an awkward pattern running diagonally across the room. After this floor is laid it is well to try one's weight on it to see if there are any squeaks due to loose or unnailed boards.

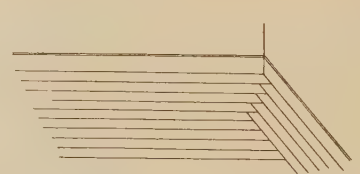
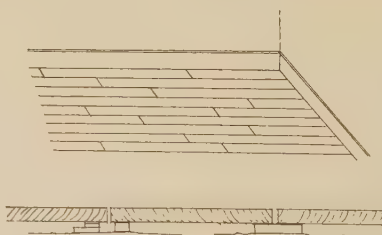
When the floor is scraped the workman should be cautioned to use a fine grade of sandpaper for the finish. A much better and smoother looking floor will result by insistence on this detail and on rubbing only in the direction of the grain.

The grading and lengths of the flooring must be carefully overseen. Most flooring now comes in bundles labelled according to grades 1, 2, 3, and 4. These numbers have taken the place of the old grades known as Clear, Select, etc. The requirements for each grade may readily be obtained from the Oak Flooring Manufacturers' Association, the recognized authority on the subject.

Three-eighths-inch flooring is often spoken of as "carpet" flooring, because of its thinness. It is readily recognizable by being nailed from the top, in contrast to the "blind" nailing of $\frac{1}{8}$ -inch material. It is difficult to putty or fill the nail holes so that they are not noticeable. Some contractors will hold that it is just as good as $\frac{1}{8}$ -inch, since the latter can only be scraped a small fraction of its thickness before it will develop ugly cracks when the top of the groove is reached. This point is hardly justified, because $\frac{3}{8}$ -inch flooring can scarcely be scraped even once without resetting the nails. Then too the material is too thin to prevent the nails from giving way. The nails must necessarily be of smaller size, with the result that more squeaks and loose floors develop.



Do not let the joints be broken in steps; the second diagram shows a better way



Left, wrong and right ways of blocking up sleepers. Above, a place to watch for proper tonguing

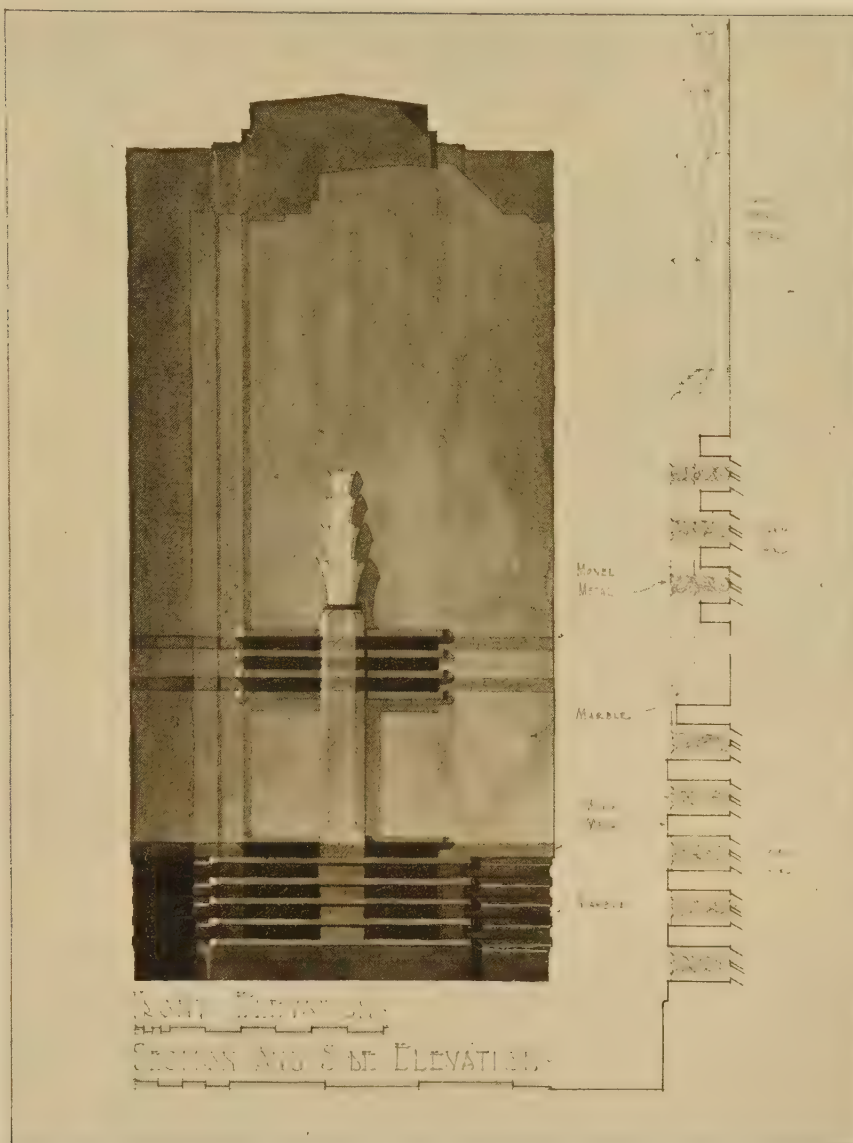


A
COMBINED
HEATING,
LIGHTING,
AND

VENTILATING
UNIT FOR
AN OFFICE-
BUILDING
LOBBY

By
Arthur J.
Frappier

New York
City



Awards in ARCHITECTURE's Competition

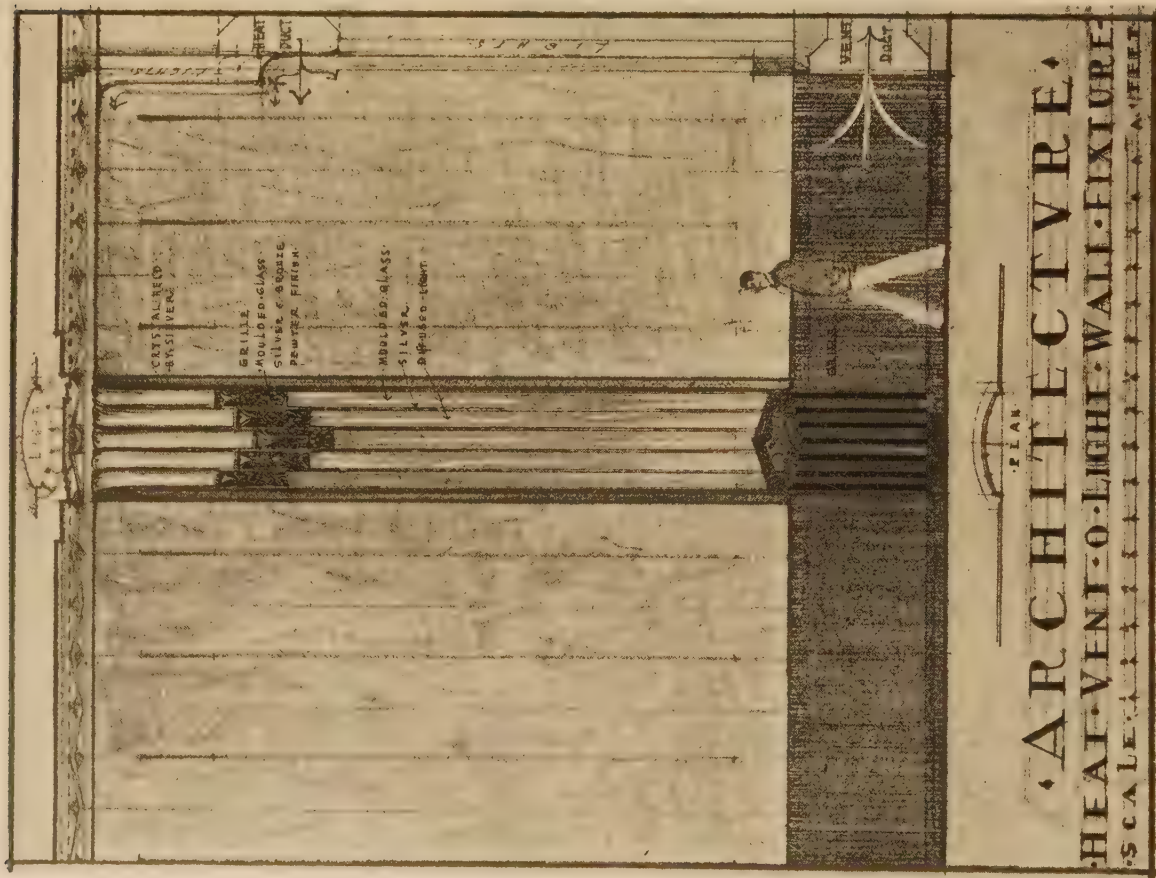
IT was required to design a sidewall unit for an office-building lobby, combining heating, ventilating, and lighting service. Of the jury as originally announced, Mr. Corbett was unable to be present; the following awards were agreed upon unanimously by Messrs. Raymond Hood, Ralph T. Walker, and the Editor of ARCHITECTURE.

Three prizes of one hundred dollars each, given by a friend who desires to remain anonymous, together with ARCHITECTURE's bronze medal, are awarded to: Frederick G. Busch, of Providence, R. I.; Arthur J. Frappier, of New York City; and Domenic Thomas Russillo, of Providence, R. I. The jury made no attempt to place these three in the order of their merit.

The three prize-winning designs are shown on this and the following page, while some biographical details of the designers will be found in the Bulletin Board pages.

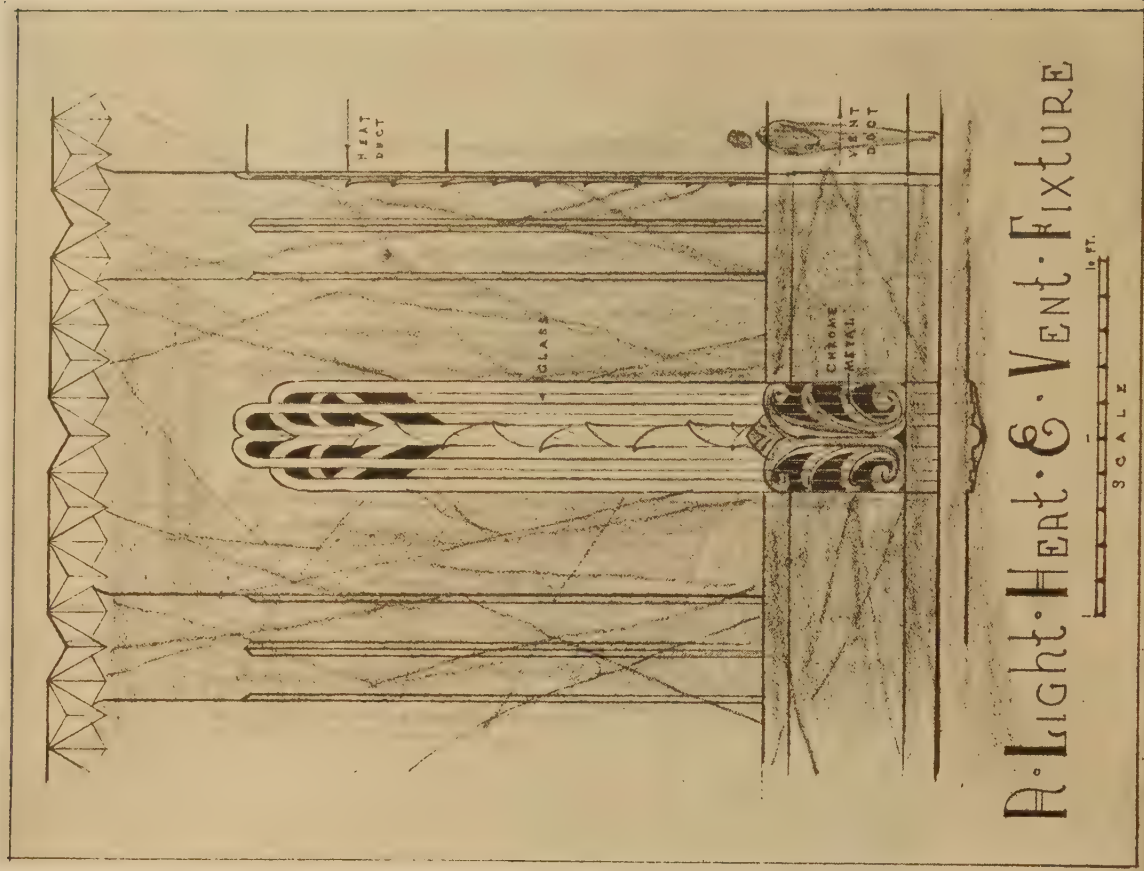
The jury selected also the design of E. Todd Wheeler, of Evanston, Ill., for honorable mention.

There were about fifty entries, the authors of which will be interested to know that the jury found two outstanding faults. One was too close conjunction between incoming air and outgoing air—obviously a source of trouble that should have been avoided in the design. The second fault was over-elaboration in form or detail—a serious objection when it is recalled that the unit must be repeated around the walls of the lobby.



By Domenic Thomas Russillo,
Providence, R. I.

« ARCHITECTURE »



By Frederick G. Busch,
Providence, R. I.

Sunday, March 1.—It is rather amusing to note the unanimity with which the architect is at present being blamed for not having produced, long ago, a far better architecture. Books such as Mr. Sheldon Cheney's "The New World Architecture," and writers in the critical magazines of to-day, charge the profession with having failed utterly to measure up to its opportunities. This is rather amusing when one reflects how helpless the mere architect is in the creation of architecture. If there is any one art that is, more than others, a reflection of the life and thought of the whole people in any given period, it is architecture. The individual genius dashes out in front and points a new way. Another dashes out and beckons in another direction. Such voices are merely crying in the wilderness, for the slow tide of public appreciation and will to create follows along at its own slow pace. No single architectural genius, nor any group of them, has in the past led his generation along a wholly new way in architecture. Always it has been the slowly moving progress—or retrogression—of a whole people.

Monday, March 2.—Lancelot Sukert, President of the Michigan Society of Architects, calls attention to the necessity for some educational work among bankers and other sources of building money supply, concerning the subject of differing qualities of construction. Money is loaned in many cases upon the size of buildings rather than upon their quality. In some cases applicants for loans have even been advised to go to another architect or to obtain bids from other contractors with the idea of getting more building in bulk for the money. In this manner the loan sources are actually demanding shoddy construction, thereby creating short-lived collateral for their loans. As a result, when they have had to foreclose, they have taken back buildings requiring constant repairs and costly upkeep.

Once again it becomes apparent that there should be some recognized means of appraisal by an independent organization similar to the certified public accountant.

Wednesday, March 4.—The building-construction industry holds the unenviable distinction of being the cause of more deaths than occur in any other branch of work. The large cities are the worst in this regard. In New York last year the average cost per case was \$474, the State making compensation awards upon 104,848 accident cases, totalling \$35,000,000. The architect's aid in the maintenance of safeguards for workers is essential, yet he is only too prone to consider the matter entirely in the jurisdiction of the contractor.

Thursday, March 5.—On a long train ride over into Pennsylvania I had



The Editor's Diary

the time to re-read Geoffrey Scott's "The Architecture of Humanism"—a book full of wisdom, even if one does not agree at all points with the author. I was struck by the force of some of his definitions—taste, for example: "a factor which seems to disown the authority of the intellect, and to be guided, if it is guided at all, by instincts of which the intellect can give no immediate account." Again, his definition of humanism: "the effort of men to think, to feel, and to act for themselves, and to abide by the logic of results." Scott launches a dart at those who would bind the principles of design by mathematical formulæ: "The intervals of a vulgar tune are not less mathematical than those of noble music, and the proportions of the human body, which artists like Leonardo (following Vitruvius) sought to describe within a circle and a square, are not most beautiful when they can be exactly related to those figures. . . . Our æsthetic taste is partly physical; and, while mathematical 'proportion' belongs to the abstract intellect, æsthetic 'proportion' is a preference in bodily sensation. Here, too, are laws and ratios, but of a different geometry. And there can be no sure criticism of architecture till we have learnt the geometry of taste."

Saturday, March 7.—Utopia is at hand.

"Homes, offices, shops, and institutions will take on new dignity, well-ordered neighborhoods will no longer be threatened by single eyesores, and endless rows of mediocrity will cease to disfigure entire sections, once a nationwide vigil exists," it is declared in a statement issued by the American Institute of Architects.

This is all to be brought about through the formation of Architects' Advisory Councils to pass upon the design of buildings in the drawing stage. The scheme has been in operation for eight years in Washington, D. C., and is now being attempted in Cincinnati. A resolution of the Board of Directors urges that each of the seventy chapters of The Institute undertake the organization of a similar council as a measure of civic

philanthropy, all of which suggests an auspicious beginning of a whole new type of warfare.

Monday, March 9.—Out in St. Louis they have recently worked out a very helpful booklet called "Good Practice Specifications." The Construction Industries Division of the Better Business Bureau of St. Louis is responsible for the work, which is in effect a standard specification for small dwellings as developed by experts in the various trades. Eugene S. Klein, of Le Beaume & Klein, was the architect member of the council.

Tuesday, March 10.—Lunched with Aymar Embury, who, just back from his fourth pilgrimage to Yucatan, seems never to weary of the architectural wonders thereof. Next year, however, he wants to go over to see Angkor Vat, or, lacking the time for that, North Africa. If the time will not permit that, he will go again to Yucatan.

Wednesday, March 11.—Surely at no time in our history have we been able to use the enormous variety of woods that are offered us these days, when transportation facilities encircle the earth. The advertisement of a Mid-West dealer lists sixty varieties of hard woods and cabinet woods carried in stock.

Saturday, March 14.—Dropped in at The Church Club to hear Hobart Upjohn lecture to its members on "Modern Tendencies in Ecclesiastical Architecture." The membership, mostly of churchmen, was evidently considerably shocked at the sight of such churches as the rectangular concrete effort of Peret at Raincy, the organ-like façade of Grundtvigs Church at Copenhagen, by P. V. J. Klint, the copper and glass structure built at Cologne by D. Otto Bartning, the church at Tulsa, Oklahoma, and other individualistic efforts. Mr. Upjohn's point in showing them was that church architecture cannot stand still. It must move forward. These strange outposts in design must be regarded as mere experiments, mere gropings in our efforts to build a house of God with the materials at hand. Out of the gropings, if there are enough of them, something fine will probably emerge.

Sunday, March 15.—A stroll down Fifth Avenue reveals two particularly interesting minor architectural achievements. At 58th Street in the Squibb Building, the Kodak Shop has been designed by Walter D. Teague, former President of the Artists' Guild, a designer who, among other achievements, has to his credit the Marmon Sixteen Automobile. The Kodak Shop interior is treated in silver, gray, and black to

form a neutral setting for the sparkle of the merchandise. Of course, all of the lighting is indirect, and the shop is air-conditioned. Probably within two or three years the business premises which are not air-conditioned will be the exception.

Farther down Fifth Avenue, below 55th Street, stands the little marble building designed by Ely Kahn for Richard Hudnut. The ingenious pattern of squares for windows and spandrels gives the façade a delicacy and daintiness in keeping with the business of a perfumer. Mr. Kahn tells me that he is going to cover the marble with some sort of lacquer to preserve its polish against weathering.

Monday, March 16.—A company of his friends and admirers gathered to-night at The League for dinner to honor Eliel Saarinen. Hung on the walls were some of his marvellous drawings and many photographs of the Cranbrook development. Ely Kahn presided, calling upon Harvey Corbett, Monroe Hewlett, and Ralph Walker, all of whom paid earnest tributes to the work that Saarinen has done and is doing in the country of his adoption. Saarinen in reply spoke of his conception of modern architecture. In every age, creative designers, whether in music, painting, sculpture, or architecture, have striven for forms that would express their own particular time and feelings. Out of a host of individual strivings occasionally one man grasps the spirit of that particular age, and a style is gradually created. Once recognized, this form is developed by contemporaries until it fails to interest any longer in the search for still another significant form. This is what Saarinen feels that we are trying to do now. It is impossible to tell whether some one has found it or not. Only the future will show that. Obviously, the significant form and spirit of this age will not be found by mere play with the bizarre, but rather in the earnest, humble effort to use the materials that we have in solving the problems of our day to the best of our individual abilities.

Wednesday, March 18.—After months of study, the rough designs of the so-called Radio City have been made public. Mr. John D. Rockefeller, Jr., had acquired control of almost three full city blocks lying between Fifth and Sixth Avenues, 48th and 51st Streets. One block of the Fifth Avenue frontage alone remained in other hands. It is an architectural opportunity that comes once in a lifetime. An illustration on another page shows a model of the scheme. To me it is disappointing chiefly in the fact that the design consists of so many loosely related units. It is little other than three city blocks of skyscrapers. What the many and



*Walter D. Teague's Kodak Shop
on Fifth Avenue, New York*

varied requirements and restrictions were, we have no means of knowing. They must have provided a very close restriction of form, judging from the results. Even so, it does seem that the architects might have succeeded more fully in developing the big tract with greater unity of design. Surely it would have been possible to have bridged the intersecting streets in order to secure a base for the whole scheme—or in some other way gain a sense of unity which is now so lacking even in the model, and which must become even more conspicuous by its absence when one walks through the completed streets.

Thursday, March 19.—W. H. Butterfield and I looked more carefully to-day at the exhibition at The League showing photographs and drawings of Eliel Saarinen. Some of these drawings—at minute scale in pencil and water-color—have a delicacy that I firmly believe has never been equalled in draftsmanship. I only wish it were possible to reproduce them, but no existing process could possibly hold their ethereal quality.

Friday, March 20.—The New York Chapter met this afternoon and discussed once again the question of whether its office should be moved into The Architectural League Club House. Apparently fearing a loss of individuality, the members voted the proposal down, and the office for the present will stay where it is, 101 Park Avenue.

After the meeting, a dinner was held in The League in order that the members and the juniors of the Institute in this vicinity might become better acquainted. Mr. Voorhees introduced Robert D. Kohn, the President of the Institute, who gave us a new idea of the manifold

activities and interests of the A. I. A. in these days.

Sunday, March 22.—Drove out to Staten Island with Mr. and Mrs. Ernest Flagg, and spent some interesting hours inspecting the latest results of Mr. Flagg's ingenuity in devising new methods of building. It is curious how some of these innovations startle one at first view, seem reasonable the second time one sees them, and finally, because of their inherent rightness, become attractive.

Wednesday, March 25.—Spent an hour with Bradford Perin, who showed me some of the things he is making in his Pasadena forge and workshop—furniture, weather-vanes, terrace tables, and flower-holders—all designed with an unusual delicacy of line, a lightness of the iron, and a perfection of craftsmanship that is noteworthy. Perin is the sort of craftsman that is not satisfied until the under part of a chair or table is as perfectly done as the parts most in evidence.

Thursday, March 26.—Met Raymond Hood and Ralph Walker at luncheon to judge ARCHITECTURE's Competition for a combination heating, ventilating, and lighting unit. Hood telling us that some one had just called him up asking whether he might talk with him regarding the design of "Metropolitan Square" as they prefer to call the big Rockefeller development of three city blocks in the centre of New York, and Hood's delight at any critic really wanting to know what it is all about. As he says, most of them write columns without having seen the drawings, models, or any one with a knowledge of the controlling facts.

Saturday, March 28.—I heard to-day from a source which is dependable, that the steel with which to build Mr. Rockefeller's Metropolitan Square has been contracted for at a price which, in its lowness, has not been touched for eight or nine years. This is the time to build.

Tuesday, March 31.—For some years we have been bewailing the lack of architectural criticism in the public and professional press. Apparently we need bewail no longer, for the criticism is upon us. Lewis Mumford names names in a critical architectural survey in *The New Republic* this month, in which the architects receive a mark far below passing. This morning *The Herald Tribune* devoted its leading editorial to an architectural criticism of the Radio City, so called. Architectural criticism is breaking loose, and, once having broken loose, we shall probably have it in an over-abundance. The difficulty is, how are we to train critics. Every one crying "A bas! A bas!" is not necessarily deserving of that title.

CONTACTS



DEVOTED TO A BETTER UNDERSTANDING OF THE BUSINESS SIDE
OF ARCHITECTURE AND ITS RELATION TO THE INDUSTRIES



A Windowless Factory

NEW PLANT OF THE SIMONDS SAW AND STEEL CO., AT FITCHBURG, MASS.,
DESIGNED BY THE AUSTIN COMPANY, ENGINEERS AND BUILDERS

THE idea of a windowless building, for factory or office purposes, is not a new one. The scheme has been suggested for governing the design of several important projects built within the last five years. We have for long built theatres without windows, and Germany has recently built a motion-picture studio without any outside lighting. Nevertheless, the windowless workroom is now being carried out for the first time in the Simonds Saw and Steel Co.'s factory at Fitchburg, Mass. Incidentally, it is a significant index of our present state of mind in architectural matters that we are trying out the windowless building at the same moment that we build structures of steel and glass that are practically *all* windows.

The Simonds factory has been designed by the Austin Co., engineers and builders. Parenthetically, it might be noted that some unusual problems are uncovering themselves from day to day in the erection work. When work was completed on the walls and roof, the interior was left in total darkness, so an emergency lighting system was installed until the permanent fixtures were delivered. When the plant was completely encased, the severe New England winter had left a deposit of ice and snow on the floor before the roof had been covered. With the plant's insulated walls, the factory assumed the characteristics of an ice house. Salamanders could not be used because there was no way to carry off fumes and gases generated. Accordingly, the Austin engineers fired up the boilers and attached fan blowers over steam pipe coils for circulating warm air to thaw out the ground and make workmen comfortable. Doors and ventilators had to be opened fre-



quently to allow moisture and air to leave the building.

Under ordinary working conditions in a factory illuminated by daylight, the light is changing constantly, so that it is for periods of short duration only that each machine, desk and bench receives the kind and amount of illumination best suited to the eye and which enables the workers to produce with the least strain and effort. Natural light is constantly varying in intensity due to clouds and changing weather conditions. It will concentrate close to the windows, and other parts of the building may be in semi-darkness.

With respect to the ultra-violet light derived from sunlight coming into the buildings operating under natural light, many tests have shown that it is on certain days only that there is sufficient ultra-violet light in sunlight to be effective and that this is lost by absorption in the window glass. Then, too, in a great many manufacturing plants with windows, proper care is not taken to keep them clean, with the result that the light efficiency is cut down to an alarming degree.

In the new Simonds plant lighting will be accomplished by means of reflector units mounted 18 feet above the floor line and enclosed in special steel diffusing shades, giving a uniform light intensity of 26 foot-candles on the working plane. This intensity promotes the ability to see and the speed of vision, thus reducing the hazard of accident. By the introduction of some ultra-violet in the lighting system, a germicidal action beneficial to health is obtained.

Provision has also been made so that in case the power should fail at any time, an emergency lighting system, operated by storage batteries, would automatically be thrown on.

The lighting system providing one sheet of light of equal intensity over the entire building is expected to make it easier to achieve uniform quality of product. A small percentage of light from the lamps will be reflected above to the ceiling, for the purpose of creating a more cheerful atmosphere in the building and assisting in the general diffusion of light.

Next to the problem of lighting, that of ventilation is the most important in the design of the building. Every precaution has been taken to insure the health and comfort of employees. Through automatic humidity control the moisture content of the air will be kept at the point most beneficial to health. Temperature also will be controlled and every 10 minutes over 500,000 cubic feet of air, tempered to right condition and cleansed of dust and other outdoor impurities by washing and filtering, will be brought into the building, making a complete change.

In hot weather the air will be cooled through evaporation by atomized spray bank. In cold weather the air will be heated through coils in auxiliary fan houses through which the air will pass after washing, the air being delivered to various sections of the building through ducts. The heating system, of course, will be under thermostatic control. All fumes, gases, exhausts, and excess heat are removed from the building by underground ducts.

Special study has been given to the problem of eliminating drafts, and fresh air is so delivered that employees will feel only the freshness



The windowless factory in process of construction

of a slowly moving body of air. By control of humidity in winter a great deal of usual trouble from colds and similar diseases will be avoided.

In order to lessen the nervous tension and distractions incident to modern factory din, extensive study has been made in search of a solution of the problem of noise reduction. The result is to be accomplished in a number of ways, through acoustical walls, ceiling, and floor, through the isolation and padding of large machines and drop hammers, and by actual silencing processes.

The floor will have a concrete base with an acoustical wood block for such portions not occupied with equipment foundations. Machinery causing noise and vibration will be insulated from the body of the floor and cushioned with cork pads.

Noises from material in process

of manufacture will be reduced by masking, tempering, and dampening. The process of masking allows different noises of similar frequencies to counteract each other, while the process of tempering involves placing shields in machines where noise originates to intercept the wave action. In dampening, the material is restrained from giving out sound after the fashion of quieting a tuning-fork.

The roof of the building is of particular interest. Like the walls it is wholly solid, being of a metal acoustical type of high efficiency. The first layer of the roof's composition is a structurally strong perforated metal roof deck to permit passage of sound. Above this is a layer of rock fibre $1\frac{1}{4}$ inches thick, bound with asphalt. Over this are two $\frac{1}{2}$ -inch layers of insulating

board secured in asphalt. On top of this is a built-up waterproofing. In addition to sound absorption qualities the roof has insulating qualities, keeping out heat from the sun in summer and retaining heat within the building in winter.

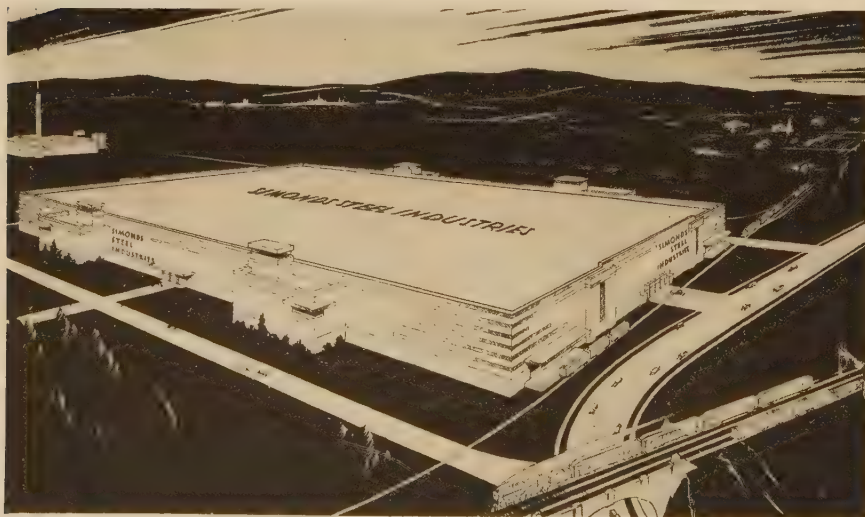
The walls of the building will be of acoustical block with an outside facing of brick. It is expected that the building will absorb at least 60 per cent of the usual sounds. Due to the acoustical arrangements it will be possible to locate the plant office at one unpartitioned end of the building. Workmen near large machines will be able to converse in ordinary tones.

The plant also will embody the latest results of psychological research into the effects of color in depressing or energizing human beings. It is well known that certain colors produce certain effects on the mind and certain nervous reactions. Some are stimulating while others have a sedative effect. The color scheme of the interior is blue, green, and white for the walls and ceiling. The blue will reflect certain ultraviolet rays from the lamps. Green is the active or energizing component, while white is for the sensation of light and to reflect cleanliness. Orange is employed as the color for machines, this color being selected because it will lift the visibility of machine parts and aid in accident prevention.

The building will be of single-story construction, with no partitions, and with only 56 columns in the entire structure. The reduction in the number of columns has saved much space, as each column consumes a space of a radius of 5 feet.

One of the interesting features of the new plant, and one which is in harmony with the advanced ideas prevailing in its design, is the fact that washroom facilities for employees are to be comparable with the best of such facilities in the finest of city skyscrapers. Floors and walls will be of white tile, and all fixtures will be of the latest type.

The conditions of the plant will permit the operation of two shifts, or more, daily, under like conditions of light and air, with the result that the company may produce a given amount of output with an investment equivalent to no more than one-half the amount that would be required for the ordinary factory designed for one day-time shift.



*Aerial perspective of the factory as it will appear.
It is 560 by 360 feet in area*



ARCHITECTURE'S PORTFOLIO OF GARAGE DOORS

THE FIFTY-FIFTH IN A SERIES OF COLLECTIONS
OF PHOTOGRAPHS ILLUSTRATING VARIOUS MINOR
ARCHITECTURAL DETAILS

Forthcoming Portfolios will be devoted to the following subjects: Mail-Chute Boxes (June), Weather-Vanes (July), Bank Entrances (August), Urns (September), Window Grilles (October), and China Cupboards (November). Photographs showing interesting examples under any of these headings will be welcomed by the Editor, though it should be noted that these respective issues are made up a month in advance of publication dates.

❖ ❖ ❖ *Subjects of Previous Portfolios* ❖ ❖ ❖

1926-27

DORMER WINDOWS
SHUTTERS AND BLINDS
ENGLISH PANELLING
GEORGIAN STAIRWAYS
STONE MASONRY TEXTURES
ENGLISH CHIMNEYS
FANLIGHTS AND OVERDOORS
TEXTURES OF BRICKWORK
IRON RAILINGS
DOOR HARDWARE
PALLADIAN MOTIVES
GABLE ENDS
COLONIAL TOP-RAILINGS
CIRCULAR AND OVAL WINDOWS

1928

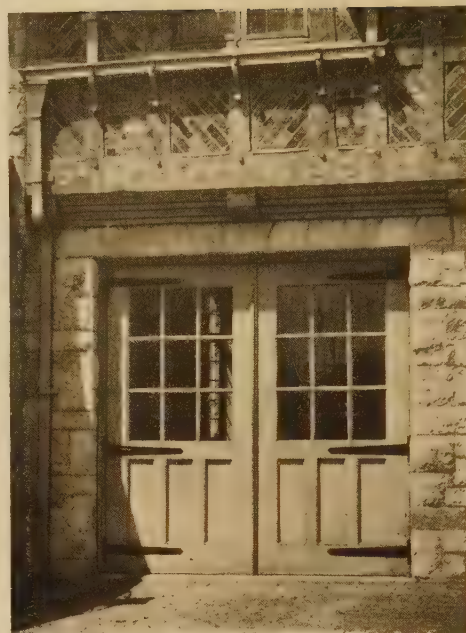
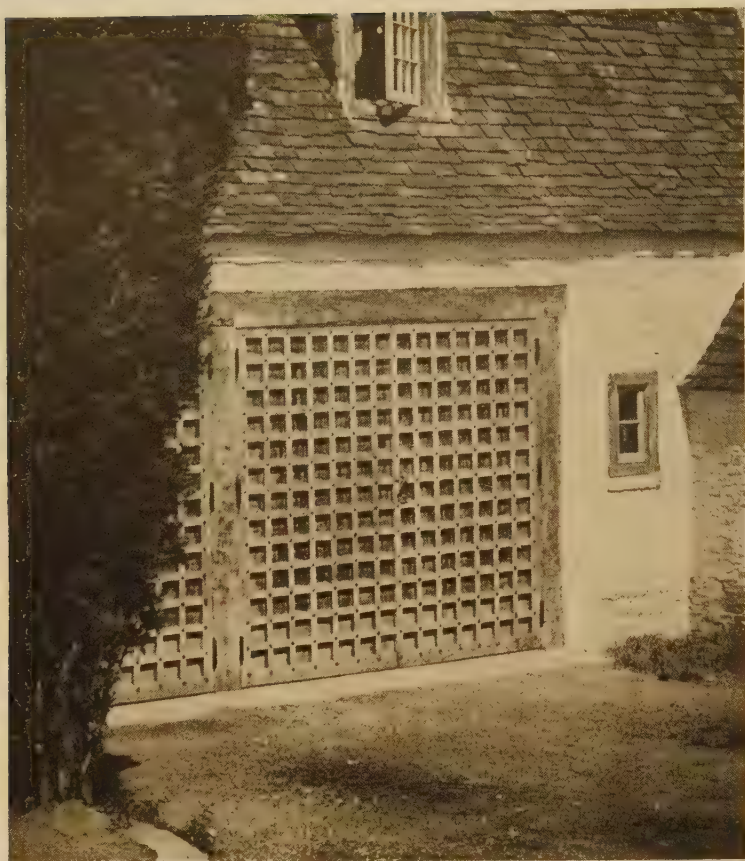
BUILT-IN BOOKCASES
CHIMNEY TOPS
DOOR HOODS
BAY WINDOWS
CUPOLAS
GARDEN GATES
STAIR ENDS
BALCONIES
GARDEN WALLS
ARCADES
PLASTER CEILINGS
CORNICES OF WOOD

1929

DOORWAY LIGHTING
ENGLISH FIREPLACES
GATE-POST TOPS
GARDEN STEPS
RAIN LEADER HEADS
GARDEN POOLS
QUOINS
INTERIOR PAVING
BELT COURSES
KEYSTONES
AIDS TO FENESTRATION
BALUSTRADES

1930-31

SPANDRELS
CHANCEL FURNITURE
BUSINESS BUILDING ENTRANCES
GARDEN SHELTERS
ELEVATOR DOORS
ENTRANCE PORCHES
PATIOS
TREILLAGE
FLAGPOLE HOLDERS
CASEMENT WINDOWS
FENCES OF WOOD
GOTHIC DOORWAYS
BANKING-ROOM CHECK DESKS
SECOND-STORY PORCHES
TOWER CLOCKS
ALTARS



Lundeen, Hooton, Roozen & Schaeffer

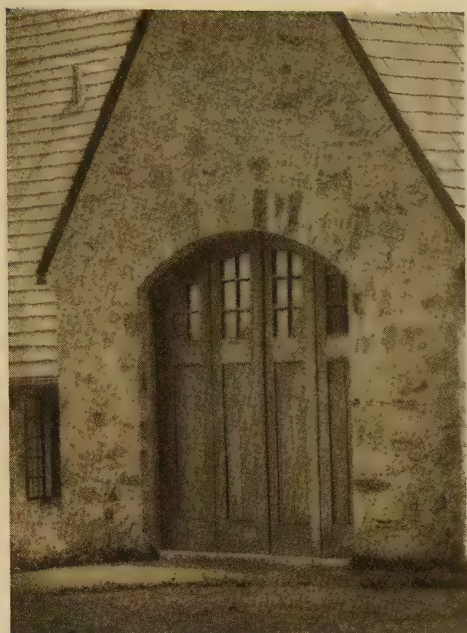
Frank J. Forster



John Lakin Baldrige

William Lawrence Bottomley





Walker & Carswell



Frank J. Forster

Talbert Hurst & Edwin Kline

Edmund B. Gilchrist



*Electus D.
Litchfield and
Pliny Rogers*



*Electus D.
Litchfield*



Pliny Rogers

*Bohnard &
Parsson*



*Aymar
Embury II*



*Richard H.
Marr*



*Widely used
stock pattern*



Arnold Deplant



Eugene J. Lang

*Wallace &
Warner*

*Clifton C.
West*





*Frederick T.
Warner*



Robert B. Kelly

*Folsom,
Stanton &
Graham*



*Charles F.
Cellarius*

*Mahan &
Broadwell*





*Robert R.
McGoodwin*



*In Southern
California*



Eugene J. Lang

*Lundeen,
Hooton,
Roozen &
Schaeffer*

*Herman
Brookman*





Tooker & Marsh



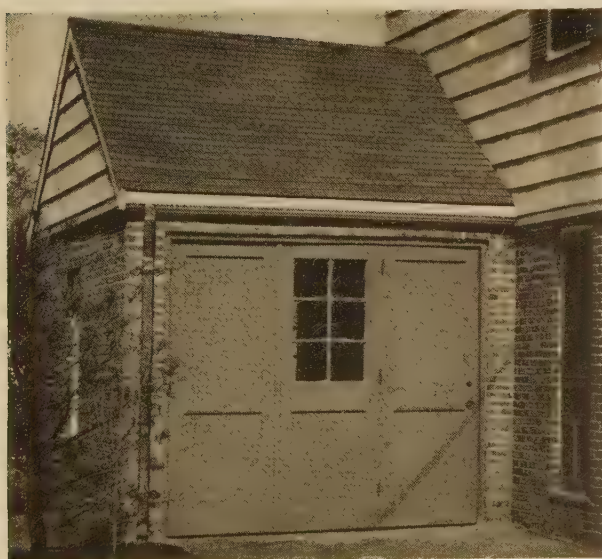
Eugene J. Lang

*Unusual side
lighting*



*Clarence S.
Stein*

*Harold W.
Doty*





Horizontal leaves folding overhead

Frank J. Forster

Henry G. Morse



Wesley S. Bessell





Widely used stock pattern

Frank J. Forster

Arthur N. Starin



Eric Kebbon

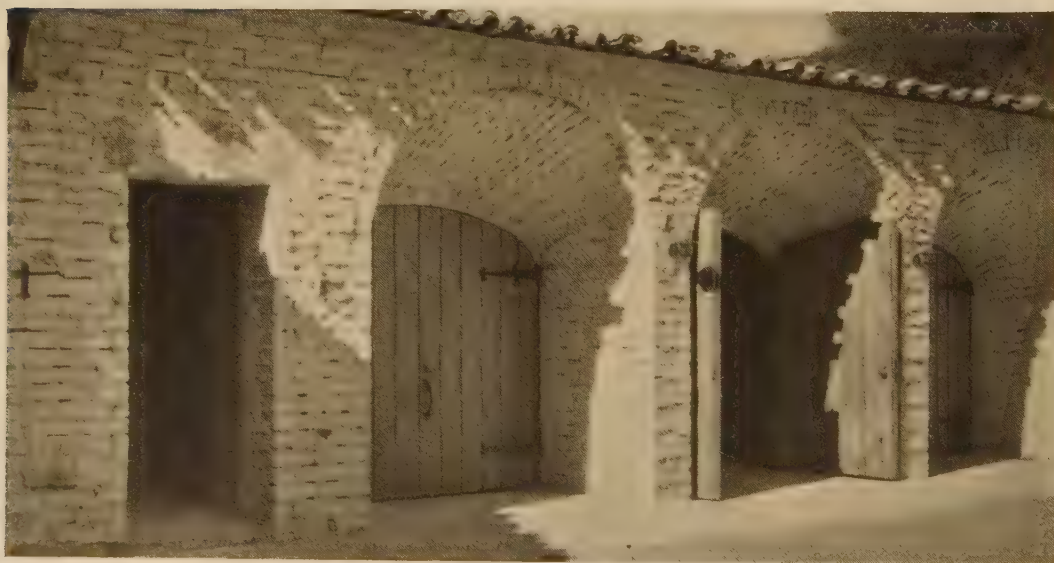




*R. C. Hunter
& Brother*



*Marshall P.
Wilkinson*



Aleck Curlett

*In a residence
in Toronto*



L. G. Scherer



*Morgan, Walls
& Clements*



*Horizontal leaves
folding overhead*



*Marshall P.
Wilkinson*

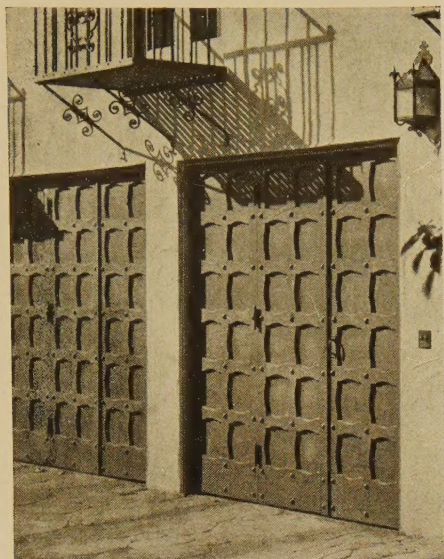


Frank J. Forster

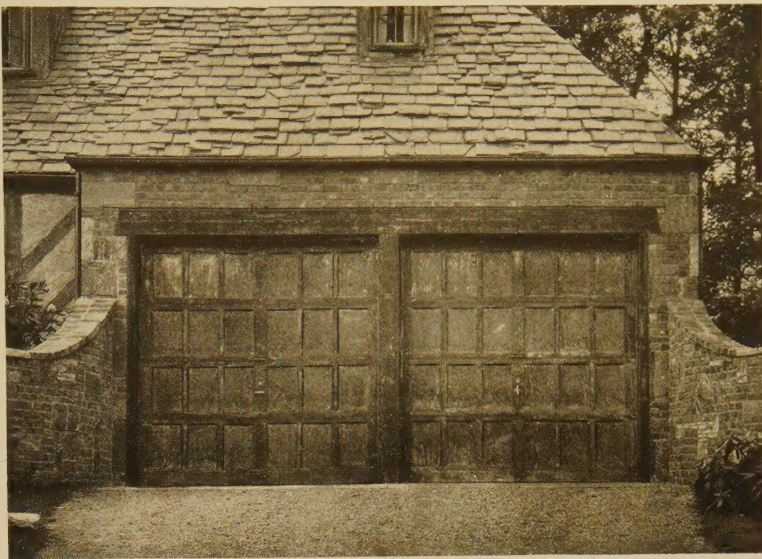
Lewis Bowman

*Ripley &
LeBoutillier*



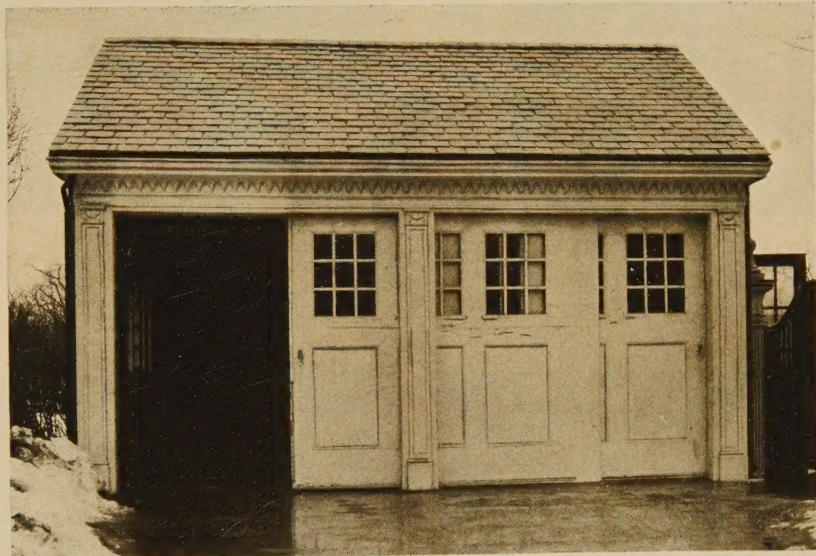


*Morgan, Walls
& Clements*



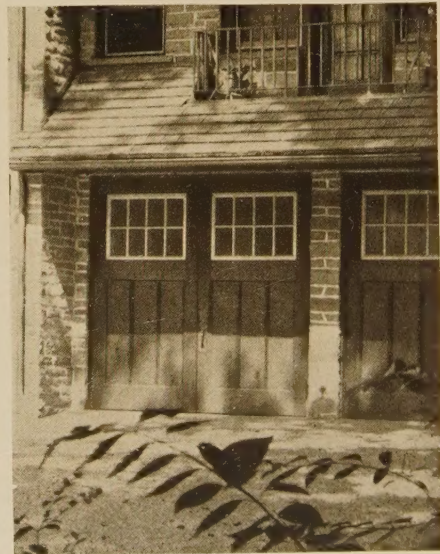
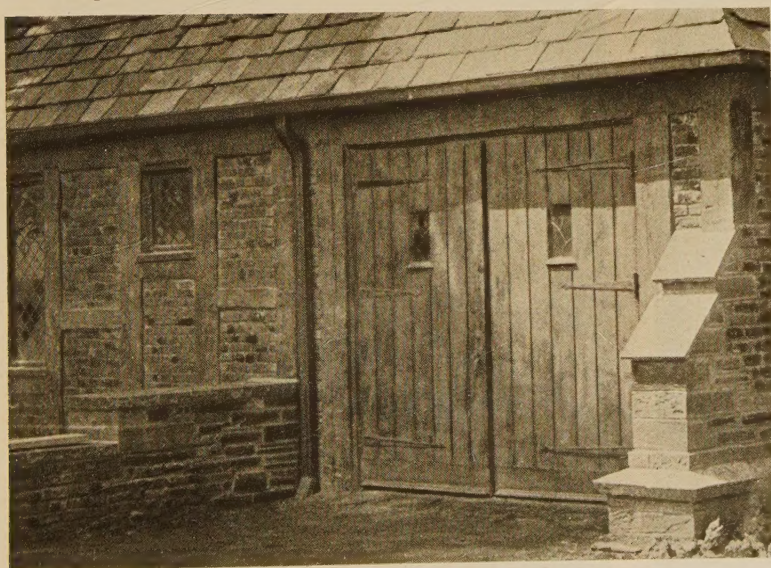
*Horizontal leaves
folding overhead*

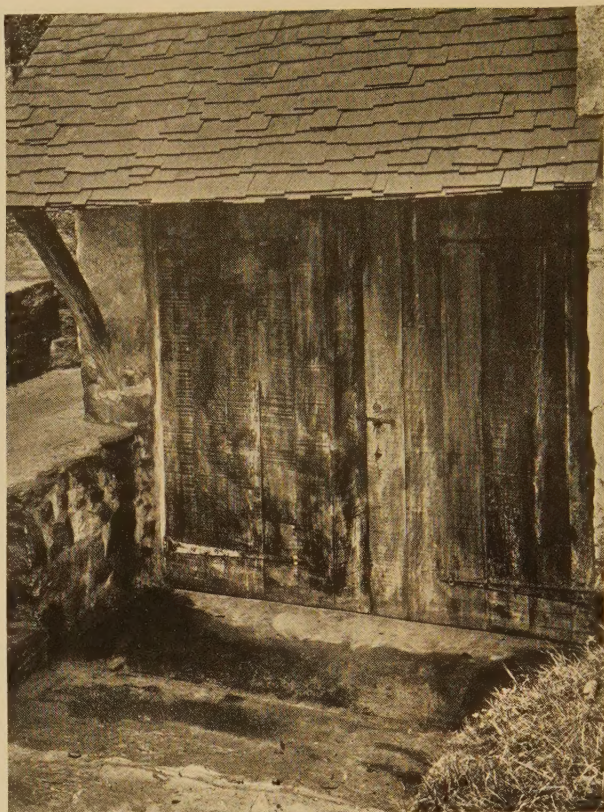
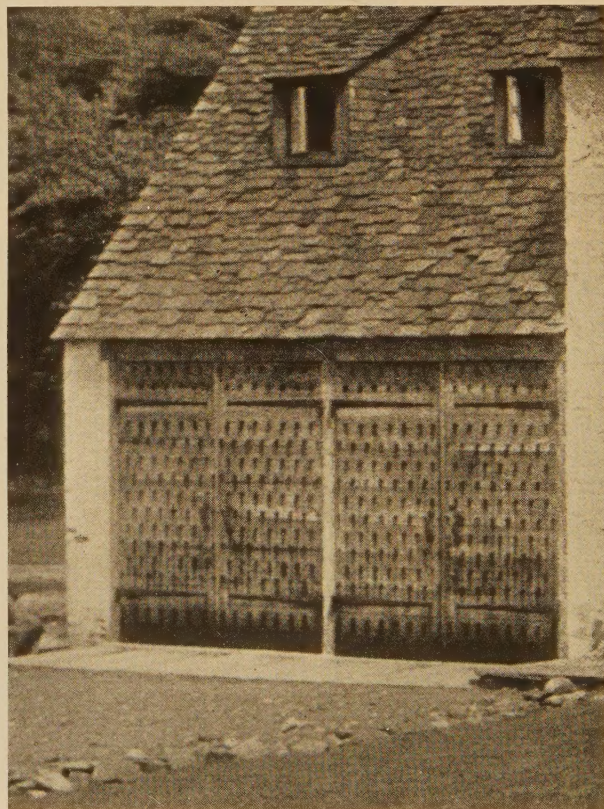
*One door sliding
over adjacent
opening*



*John Lakin
Baldridge*

*Meade &
Hamilton*



*Frank J. Forster**George R. Thompson**Lewis Bowman**Frank J. Forster*



[ARCHITECTURE]
CHARLES SCRIBNER'S SONS

TOWARD THE LOUVRE
A lithograph by Gerald K. Geerlings